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TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1890.

No. 1456.

THE CHICAGO, SANTA FÉ, AND CALIFORNIA RAILROAD COMPANY, PLAINTIFF IN ERROR,

vs.

JOHN R. PRICE ET AL., FOR USE OF JONES, FORREST & BODKIN.

IN ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS.

FILED OCTOBER 17, 1890.

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JUDD & DETWEILER, PRINTERS, WASHINGTON, D. C., OCTOBER 25, 1890.

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1 Pleas in the circuit court of the United States of America for the northern district of Illinois, held at the United States court-rooms, in the city of Chicago, in the district aforesaid, before the Hon. Henry W. Blodgett, district judge of the United States for the northern district of Illinois, on Saturday, the sixth day of April, in the adjourned March term of said court, in the year of our Lord one thousand eight hundred and eighty-nine, and of our Independence the one hundred and thirteenth year.

WM. H. BRADLEY, *Clerk.*

JOHN R. PRICE, W. J. MCGAVOCK, and REES R. PRICE, a Firm Doing Business under the Name of Price, McGavock and Company, for the Use of Francis A. Jones, William M. Forrest, and Andrew Bodkin, Doing Business under the Firm Name of Jones, Forrest and Bodkin, } Assumpsit.

vs.

THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY.

NORTHERN DISTRICT OF ILLINOIS, *ss:*

Be it remembered that on the sixth day of July, 1888, came the plaintiffs, by their attorneys, and filed in the office of the clerk of the circuit court of the United States for the northern district
2 of Illinois, at Chicago, in said district, their bond for costs and declaration in said entitled cause; which said bond and declaration are in the words and figures following, to wit:

Bond.

UNITED STATES OF AMERICA, *Northern District of Illinois,* } *ss:*

Circuit Court. October Term, A. D. 1888.

JOHN R. PRICE, W. J. MCGAVOCK, & REES R. PRICE, Use of FRANCIS A. JONES *et al.*,

vs.

CHICAGO, SANTA FÉ & CALIFORNIA RAILROAD COMPANY.

I enter myself security for costs in this cause and promise to pay all costs which may accrue to the opposite party in this action or to any of the officers of this court, and in default of payment by the plaintiffs of any costs ordered or adjudged to be paid by them I hereby agree and stipulate that execution may issue against my property for any costs taxed against said plaintiffs.

Dated this 5th day of July, A. D. 1888.

LEONARD SWETT.

(Endorsed:) Filed July 6, A. D. 1888. Wm. H. Bradley, clerk.

1—1456

3 *Declaration.*

UNITED STATES OF AMERICA, } ss:
Northern District of Illinois, }

In the United States Circuit Court for the Northern District of Illinois.

John R. Price, W. J. McGavock, and Rees R. Price, a firm doing business under the name of Price, McGavock & Company, for the use of Francis A. Jones, William M. Forrest, and Andrew Bodkin, a copartnership doing business under the firm name of Jones, Forrest and Bodkin, by Swett and Grosscup, their attorneys, complain of the Chicago, Santa Fé and California Railroad Company, a corporation organized and doing business under the laws of the State of Illinois, defendant, of a plea of trespass on the case on promises:

For that whereas, to wit, on or about the 21st day of March, A. D. 1887, at Topeka, in the State of Kansas, by a certain agreement in writing then and there made by and between said plaintiffs and the said defendants, it was agreed that the said plaintiffs should construct and complete the grubbing, clearing, and grading, including the furnishing of materials to complete ready for the superstructure, a certain road-bed of the defendant from the Mississippi river in the State of Illinois to Galesburg, in said State, a distance of about fifty-two miles, in conformity with certain specifications and conditions annexed to said contract and under the direction and supervision of the chief engineer of said defendant and his
4 assistants, in consideration of which it was agreed that the said defendant should pay to the said plaintiff for the doing of said work and the furnishing of said materials as follows: For clearing, per acre, twenty dollars; for grubbing, per acre, thirty-five dollars; for embankment borrowed and excavation wasted, where eight feet or less in depth or height, except station 130 to 400 of section one to seven, inclusive, and station 1012 to 1540, in breaks of Ellison creek; for excavation of earth wasted and embankment borrowed, where over eight feet in depth or height, fifteen cents per cubic yard; for excavation of earth hauled, per cubic yard, twenty cents; for haul of earth, per 100 feet, one cent; for excavation of loose rock, forty-five cents per cubic yard; for excavation of solid rock, eighty-five cents per cubic yard. Said plaintiffs aver that, with the knowledge and consent of said defendant, the said plaintiffs sublet said work to said Jones, Forrest and Bodkin under a contract whereby the said Jones, Forrest and Bodkin were to perform said work under the stipulations, specifications, terms, and conditions of the before-cited contract and were to receive in consideration therefor ninety per cent of the contract price before mentioned, and that under and in accordance with said contract between plaintiffs and defendant and between plaintiffs and said Jones, Forrest and Bodkin the said Jones, Forrest and Bodkin, as the sub-contractors of the

said plaintiffs and with the knowledge, consent, and approval
5 of said defendant, entered upon said work and completed the same in all respects according to the terms, conditions, requirements, and specifications of said agreement, and that the same has been accepted by the said defendant as fully completed and performed; yet the said defendant, contriving and wrongfully and unjustly intending to injure said Jones, Forrest and Bodkin, did not and would not perform said agreement and wholly neglected and refused to pay said Jones, Forrest and Bodkin, in accordance with said agreement, the sum of money coming to them and, though requested, has not paid the same, to the damage of said plaintiffs, for the use of said Jones, Forrest and Bodkin, in the sum of forty thousand dollars.

And whereas, also, heretofore, to wit, on or about the 21st day of March, A. D. 1887, at Topeka, in the State of Kansas, by a certain agreement in writing then and there made by and between said plaintiffs and the said defendants, it was agreed that the said plaintiffs should construct and complete the grubbing, clearing, and grading, including the furnishing of materials to complete ready for the superstructure, a certain road-bed of the defendant from the Mississippi river in the State of Illinois to Galesburg, in said State, a distance of about fifty-two miles, in conformity with certain specifications and conditions annexed to said contract and under the direction and supervision of the chief engineer of said defendant
6 and his assistants, in consideration of which it was agreed that the said defendant should pay to the said plaintiff- for the doing of said work and the furnishing of said materials as follows: For clearing, per acre, twenty dollars; for grubbing, per acre, thirty-five dollars; for embankment borrowed and excavation wasted, where eight feet or less in depth or height, except station- 130 to 400 of section- 1 to 7, and station- 1012 to 1540, in breaks of Ellison creek; for excavation or earth wasted and embankment borrowed, where over eight feet in depth or height, fifteen cents per cubic yard; for excavation of earth hauled, per cubic yard, twenty cents; for haul of earth, per 100 feet, one cent; for excavation of loose rock, forty-five cents per cubic yard; for excavation of solid rock, eighty-five cents per cubic yard. Said plaintiffs aver that, with the knowledge and consent of said defendant, the said plaintiffs sub-let said work to the said Jones, Forrest and Bodkin under a contract whereby the said Jones, Forrest, and Bodkin were to perform said work under the stipulations, specifications, terms, and conditions of the before-cited contract and were to receive in consideration therefor 90% of the contract price before mentioned, and that under and in accordance with said contract between plaintiffs and defendant and between plaintiffs and said Jones, Forrest and Bodkin the said Jones, Forrest and Bodkin, as the sub-contractors of the said plaintiffs and with the knowledge, consent, and approval of said defendant,
7 entered upon said work and completed the same in all respects according to the terms, conditions, requirements, and specifications of said agreement, and that the same has been accepted by the said defendant as fully completed and performed; and the

plaintiffs further aver that by and under the terms of said contract it was provided that the said work should be executed under the direction of the chief engineer of said defendant and his assistants, by whose measurements and calculations the quantities and amounts of the several kinds of work performed should be determined, whose determination should be conclusive *to* the parties *upon* said contract, whereby the compensation of said Jones, Forrest and Bodkin for said work done and material furnished was determinable by the amounts, quantities, and classification of said work as made by the assistant engineer of said defendant in charge thereof; that said Jones, Forrest and Bodkin had, with the knowledge, consent, and approval of said defendant and said plaintiffs, sub let said work, agreeing to pay therefor 90% of the amount coming to them under the terms of their said contract; that one of the engineers of said defendant had full supervision of the performance of said work and gave direction as to the manner in which it should be performed, and reported from time to time, showing the quantities, amounts,
8 and classification of the work then already done and the amounts owing to Jones, Forrest and Bodkin therefor; that said reports were forwarded to the office of the chief engineer of said defendant and were by him or his subordinates, instructed so to do, duly inspected and approved; that the last of said reports was made after the completion of said work; that said Jones, Forrest and Bodkin had no means of knowing the amounts, classifications, and quantities of said work so done by them and the amounts coming due to them therefor, except as shown by said reports so approved by the engineer of said defendant, all of which the said defendant knew; that said Jones, Forrest and Bodkin, acting upon the accuracy and correctness of said reports, paid out from time to time to their sub-contractors more than 90% of the sums shown by said reports to be due to them for said work, all of which the said defendants well knew; that but for the reliance of said Jones, Forrest and Bodkin upon the accuracy of said reports they would not have paid out said sums of money, to wit, thirty thousand dollars more than what the defendant now claims is due to them for said work, all of which the defendant at the time well knew; that the said sub-contractors to whom said sums of money were so paid are scattered over the United States and are insolvent, and that it would
9 be impossible to collect said sums back from them; yet the said defendant, contriving and wrongfully and unjustly intending to injure said Jones, Forrest and Bodkin, did not and would not perform said agreement and wholly neglected and refused to pay said Jones, Forrest and Bodkin, in accordance with said agreement, the sum of money coming to them and, though requested, has not paid the same, to the damage of said plaintiffs, for the use of said Jones, Forrest and Bodkin, in the sum of forty thousand dollars.

And whereas, also, the said defendant heretofore, to wit, on the 1st day of March, in the year of our Lord one thousand eight hundred and eighty-eight, at Chicago, to wit, in the county of Cook, became and was indebted to the said plaintiffs in the sum of forty thousand dollars, of lawful money of the United States of America, for divers

goods, wares, and merchandise by the said plaintiffs before that time sold and delivered to the said defendant and at the special instance and request of the said defendant; and, being so indebted to the said plaintiffs, the said defendant, in consideration thereof, afterward, to wit, on the same day and year and at the place aforesaid, undertook and then and there faithfully promised the said plaintiffs well and truly to pay unto the said plaintiffs the sum of money last mentioned when the said defendant should be thereunto afterward requested.

And whereas, also, the said defendant afterward, to wit, on the same day and year and at the place aforesaid, in consideration that the said plaintiffs had before that time, at the like special instance and request of the said defendant, sold and delivered to the said defendant divers other goods, wares, and merchandise of the said plaintiffs, the said defendant then and there undertook and faithfully promised the said plaintiffs that the said defendant would well and truly pay to the said plaintiffs so much money as the last aforesaid goods, wares, and merchandise at the time of the sale and delivery thereof were reasonably worth when the said defendant should be thereunto afterward requested; and the said plaintiffs aver that the said goods, wares, and merchandise last mentioned, at the time of the sale and delivery thereof, were reasonably worth the further sum of forty thousand dollars, of like lawful money as aforesaid, to wit, at the place aforesaid, whereof the said defendant afterward, on the same day and year and at the place aforesaid, had notice.

And whereas, also, the said defendant afterward, to wit, on the same day and year and at the place aforesaid, was indebted to the said plaintiffs in the further sum of forty thousand dollars, of like lawful money as aforesaid, for money before that time lent and advanced by the said plaintiffs to the said defendant and at the like request of the said defendant; and in the like sum for other money by the said plaintiffs before that time paid, laid out, and expended for the said defendant and at the like request of the said defendant; and in the like sum for other money by the said defendant before that time had and received to and for the use of the said plaintiffs; and in the like sum for other money before that time and then due and owing the said plaintiffs for interest upon and for the forbearance of divers other sums of money before that time and then due and owing from said defendant to said plaintiffs; and in the like sum for the price and value of work then done and material for the same provided by the said plaintiffs for the said defendant and at the like special request of the said defendant; and, being so indebted, the said defendant, in consideration thereof, afterward, to wit, on the same day and year and at the place aforesaid, undertook and then and there faithfully promised the said plaintiffs well and truly to pay unto the said plaintiffs the several sums of money in this count mentioned when the said defendant should be thereunto afterward requested.

And whereas, also, the said defendant afterward, to wit, on the day and year last aforesaid and at the place last aforesaid, accounted together with the said plaintiffs of and concerning divers other sums

of money before that time due and owing from the said defendant to the said plaintiffs and then and there being in arrear and unpaid, upon such accounting the said defendant then and there was found to be in arrear and indebted to the said plaintiff- in the further sum of forty thousand dollars of like lawful money as aforesaid;
12 and, being so found in arrear and indebted to the said plaintiff-, the said defendant, in consideration thereof, afterward, to wit, on the day and year last aforesaid and at the place last aforesaid, undertook and then and there faithfully promised the said plaintiffs well and truly to pay unto the said plaintiff- the sum of money last mentioned when the said defendant should be thereunto afterward requested.

Nevertheless the said defendant (although often requested, etc.) has not yet paid the said several sums of money above mentioned or any or either of them or any part thereof to the said plaintiffs, but to pay the same or any part thereof to the said plaintiffs the said defendant has hitherto altogether refused and still does refuse, to the damage of the said plaintiffs of forty thousand dollars, and therefore the said plaintiffs bring suit, etc.

SWETT & GROSSCUP,
Plaintiffs' Attorneys.

(Endorsed:) Filed July 6, 1888. Wm. H. Bradley, clerk.

13 Afterward, to wit, on the first day of November, 1888, came the defendant, by its attorneys, and filed in said clerk's office its plea in said entitled cause; which said plea is in the words and figures following, to wit:

Plea.

UNITED STATES OF AMERICA, *Northern District of Illinois,* } ss:

In the Circuit Court Thereof. October Term, A. D. 1888.

JOHN R. PRICE, WM. J. McGAVOCK, and REES R. PRICE, Copartners as Price, McGavock and Co.,
v.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY. } Assumpsit.

And the defendant, by Williams and Thompson, its attorneys, comes and defends the wrong and injury, when, etc., and says that it did not undertake or promise in manner and form as the plaintiffs hath above thereof complained against it; and of this it puts itself upon the country, etc.

By WILLIAMS & THOMPSON,
Its Attorneys.

(Endorsed:) Filed Nov. 1, 1888. Wm. H. Bradley, clerk.

14 Afterward, to wit, on the thirtieth day of January, 1889, there was filed in said clerk's office a stipulation in said entitled cause; which said stipulation is in the words and figures following, to wit:

Stipulation.

In the United States Circuit Court for the Northern District of Illinois.

JOHN R. PRICE *et al.*, Use, &c.,
vs.
CHICAGO, SANTA FÉ & CALIFORNIA RAILWAY CO.

It is stipulated that a jury be waived, and that the case be tried by the court without a jury.

Jan'y 30, 1889.

SWETT, GROSSCUP & WEAN,
Att'ys for Pl'ffs.
WILLIAMS & THOMPSON,
Att'ys for Def't.

(Endorsed:) Filed Jan'y 30, 1889. Wm. H. Bradley, clerk.

15 On the same day, to wit, on the thirtieth day of January, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE, W. J. MCGAVOCK, and REES R. PRICE, Use of, &c., *vs.* THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come the parties, by their attorneys, and, upon issue joined herein, by agreement of the parties, as per stipulation filed, they waive the intervention of a jury, and for trial put themselves upon the court; and, after hearing a part of the evidence, the hour of adjournment having arrived, it is ordered that the further trial of this cause be postponed until to-morrow morning.

16 Afterward, to wit, on the thirty-first day of January, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE *et al.*, Use of, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after hearing additional evidence upon the issue herein without concluding the same, the hour of adjournment having arrived, it is ordered that the further trial of this cause be postponed until to-morrow morning.

17 Afterward, to wit, on the first day of February, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE *et al.*, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after hearing additional evidence upon the issue herein without concluding the same, it is ordered that the further trial of the cause be postponed to a future day.

Afterward, to wit, on the fifth day of February, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after
18 hearing additional evidence, without concluding the same, upon the issue herein, it is ordered that the further trial of this cause be postponed until to-morrow morning.

Afterward, to wit, on the sixth day of February, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE *et al.*, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after hearing the concluding evidence upon the issue herein and a part of the arguments of the counsel, it is ordered that the further trial of this cause be postponed until to-morrow morning.

19 Afterward, to wit, on the seventh day of February, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE *et al.*, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after hearing additional arguments of counsel without concluding the same, it is ordered that the further trial of the cause be postponed until to-morrow morning.

20 Afterward, to wit, on the eighth day of February, 1889, in the December term of said court, 1888, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Order.

JOHN R. PRICE *et al.*, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY. } Assumpsit.

Now come again the parties, by their attorneys, and, after hearing the concluding arguments of the counsel upon the issue herein, the court, not being sufficiently advised in the premises, takes this cause under advisement.

21 Afterward, to wit, on the twenty-fifth day of March, 1889, there was filed in said clerk's office the opinion of Judge

Blodgett in said entitled cause; which said opinion is in the words and figures following, to wit:

Opinion, March 25, 1889.

United States Circuit Court, Northern District of Illinois.

JOHN R. PRICE and REES R. PRICE and WILLIAM J. McGAVOCK, Who Sue for Use of, &c.,
vs.
THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY.

BLODGETT, *J.*:

This suit is brought to recover a balance claimed to be due plaintiffs on a contract, in writing, made on the 21st day of March, 1887, between plaintiffs, constituting the firm of Price, McGavock & Co., party of the first part, and the Chicago, Santa Fé & California Railway Company, of the second part, by which plaintiffs agreed to do all the clearing, grubbing, and masonry necessary to complete the road-bed of the railroad of the party of the second part from the east bank of the Mississippi eastward for a distance of fifty miles, which in fact included that portion of defendant's line of railway between the Mississippi river and Galesburg, in the State of
22 Illinois.

It is admitted that the plaintiffs, soon after the making of this contract, sub-let the same to the firm of Jones, Forrest & Bodkin, who did the work called for by the contract, and this suit is prosecuted in the name of the plaintiffs for the use of Jones, Forrest & Bodkin, and although the contract provides in terms that the work shall not be sub-let or the contract assigned, the parties have stipulated in writing that the defendants will claim no advantage or defense by reason of the plaintiffs having sub-let the work.

The chief controversy in the case relates to the work done on division No. 9, which was about 12 miles in length, the 50 miles covered by the contract having for purposes of construction been divided by defendant into divisions and the work on each division having been in charge of an assistant engineer or division engineer, who was employed by the defendant and acted under the general direction of the chief engineer of defendant.

The contract contained the following provisions which bear upon the questions raised in this case:

"The work shall be executed under the direction and supervision of the chief engineer of said railway company and his assistants, by whose measurements and calculations the quantities and amounts of the several kinds of work performed under this contract shall be determined and whose determination shall be conclusive upon the parties." * * *

23 "The said chief engineer shall decide every question which can or may arise between the parties relating to the execution

thereof, and his decision shall be binding and final upon both parties." * * *

"It is further agreed between the parties that monthly payments shall be made by the party of the second part on the certificate of the engineer for work done, deducting 10 per cent. from the value of work done as agreed compensation for damages, to be forever retained by the party of the second part in case the whole amount of work herein named shall not be done in accordance with this agreement." * * *

"The aforesaid party of the second part hereby agrees that whenever this contract shall be completely performed on the part of the party of the first part and the engineer has certified the same in writing the said party of the second part shall, within ten days thereafter, pay to said party of the first part any remaining sums due for said work according to this contract."

It is claimed on the part of plaintiffs that the work on this division nine was sub-let by the sub-contractors, Jones, Forrest & Bodkin, to divers other sub-contractors under them, to be paid for at certain rates, according to the quantities and classifications made by the engineer in charge; that estimates or certificates were made by such engineer from month to month of the amount and class of work done on said division, and Jones, Forrest & Bodkin paid their sub-
24 contractors for the work done by them each month on the basis of these monthly estimates; that after the work on this division was completed the chief engineer of the road caused a remeasurement and reclassification of the work on this division to be made, from which it appeared that the monthly estimates made by the assistant or division engineer had been largely in excess as to quantities, and classified so as to make it much more costly to the defendants; and by this final estimate, made by the chief engineer after the completion of the work on the entire 50 miles, the excess paid by reason of these overestimates on division 9 was recouped out of the general balance due the contractors for the whole work.

The contention on the part of the plaintiffs is that as they settled with and paid their sub-contractors on the basis of quantities and classifications of the work shown in the monthly estimates of the defendant's assistant engineer in charge of this division, and on the assumption that said quantities and classifications were correctly rendered, that after such payments defendant was estopped, as against the plaintiffs, from remeasuring or reclassifying such work, even if the estimates of the engineer in charge were incorrect, and deducting the said overpayments from the balance due on the contract; that if any one has to suffer loss by reason of the incompetency of the defendant's engineer it should be the defendant rather
25 than the contractors, who acted in good faith and made payments to the sub-contractors, who had done the work on the basis of the correctness of these monthly estimates—

While it is contended on the part of the defendant that the contract is an entirety for the whole work, and that if the plaintiffs have been overpaid for any part of it the defendant has the right to

deduct such overpayment from any balance remaining due the plaintiffs under the contract; that the monthly estimates were only approximate and subject to correction in the final estimate and calculations to be made after the completion of the entire work, and that by the terms of the contract the measurements and classifications of the work made by the chief engineer and his assistants in the final estimate are binding and conclusive upon the plaintiffs.

There is really no substantial dispute upon the material facts in the case.

It is conceded that Jones, Forrest & Bodkin, under their sub-contract with plaintiffs, performed the work called for by the contract between the plaintiff and the defendant. The proof also shows that the work on this division, No. 9, was substantially all performed by persons who had sub-contracts under Jones, Forrest & Bodkin, and said sub-contractors were paid, so far as quantities and classifications of the work were concerned, from month to month on the
26 basis of the monthly estimates made by the defendant's assistant engineer of that division—

The mode of doing business in regard to these monthly estimates being for each division engineer to make up his estimate at the beginning of each month for the work done the previous month and forward it to the chief engineer. These monthly estimates of the division engineers were forwarded to the plaintiffs with a check in payment, according to the terms of the contract, who furnished a copy of said estimates to Jones, Forrest & Bodkin with a check for the amount due them under their sub-contract with plaintiffs, and they, Jones, Forrest & Bodkin, in turn settled with their sub-contractors on the basis of these estimates as to quantities and classifications.

The testimony also shows that these monthly estimates on division 9 were largely in excess of the work actually done, and the necessary result of this method of estimating and paying for the work done from month to month was that the sub-contractors under Jones, Forrest & Bodkin were largely overpaid and the loss by reason of the overpayment must fall on plaintiffs and on the sub-contractors directly under them if the chief engineer can now revise and correct his assistant's monthly estimates and deduct the overpayments made for this work from the balance due on the contract.

27 It must be admitted that if any recovery is had in this case in favor of the plaintiff it can only be upon the rights of Price, McGavock & Company under their contract with the defendant, and the proof shows that the result of these erroneous estimates as to quantities and classifications of the work done on this division 9 was to cause Price, McGavock & Co. to pay Jones, Forrest & Bodkin more on account of each monthly estimate for this division than they would if the estimates had been correct, and Jones, Forrest & Bodkin in turn paid more to their sub-contractors than they would have been entitled to receive if correct monthly estimates had been made; so that the effect of this revision of the

estimates on division 9 is to make Price, McGavock & Co. the losers to the extent of the errors corrected, and Jones, Forrest & Bodkin, being also the losers, can properly prosecute this suit in the name of the principal contractors and for their own use.

My own conclusion is that as both Price, McGavock & Company and Jones, Forrest & Bodkin acted upon the basis of these monthly statements as to quantities and classes of work shown in those estimates, the defendant is estopped from correcting those estimates to the damage of the plaintiffs or those who claim under them.

I do not think that the clause of the contract which makes the chief engineer the final umpire in all differences between the parties arising under this contract furnishes any defense. The language of the clause is that the chief engineer shall decide every
28 question which can or may arise between the parties relative to the execution of the work, and his decision shall be final.

The question which has arisen here is not as to the execution but as to whether under the facts the defendant is bound by the measurements and calculations of quantities of the work returned by the defendant's assistant engineer under whose immediate charge and supervision the work was done. It is not a question as to the execution of the contract, but a question as to the right to change the payments under the circumstances and in effect collect these overpayments from the plaintiffs which have been made to the subcontractors under Jones, Forrest & Bodkin; nor do I deem it necessary for the purposes of this case to decide what are the powers of the chief engineer in making what he terms the "final estimate." Probably, if the contractors had not acted on these monthly or running estimates as the work progressed and paid the men who actually did the work on the basis furnished by those estimates, the right to correct errors might have existed; but here were false quantities and classifications returned by the man whom the defendant had clothed with authority and power to calculate these quantities and make classifications of the work and return them for the purpose of making monthly payments; and, while it may be granted that either the plaintiffs or defendant must suffer for the errors made by this man, I think the facts make a case
29 for the application of the familiar rule that where two innocent parties must suffer for the acts of a third the loss shall fall upon the one who placed it in the power of the third to make the mistake.

The provision of the contract as to the duties of the chief engineer in relation to this work creates at least an implied obligation on the part of the defendant to furnish competent and honest engineers, and if any one is obliged to lose by this engineer's lack of ability or honesty it should be the defendant who employed him.

I may add that I do not deem it necessary to decide whether the errors in question arise from this engineer's incompetency or dishonesty, although it is fit that I should say that there is no proof whatever that these false estimates were made at the instance or with the knowledge of the plaintiffs or of Jones, Forrest & Bodkin.

There will, therefore, be a finding in favor of the plaintiffs for the amount shown by the estimates to be due them on the basis of the correctness of the monthly estimates on division 9, and for the extra work, such as the extension of embankments at the ends of the bridges, side-track work, &c., of which there is no dispute.

(Endorsed:) Filed March 25, 1889. Wm. H. Bradley, clerk.

30 Afterward, to wit, on the sixth day of April, 1889, there was filed in said clerk's office the finding of facts in said entitled cause; which said finding of facts is in the words and figures following, to wit:

Finding of Facts.

JOHN R. PRICE *et al.*, Who Sue for the Use of JONES, FORREST & BODKIN,
vs.
CHICAGO, SANTA FÉ & CALIFORNIA RAILROAD COMPANY.

The court, from the testimony in the case, finds the following facts, to wit:

That on the 21st day of March, A. D. 1887, the plaintiffs and the defendant entered into a contract in writing, as set forth in the foregoing bill of exceptions, by which the plaintiffs agreed to do all the clearing, grubbing, and masonry necessary to complete the road-bed of the defendant from the bank of the Mississippi river to Galesburg, a distance of about fifty miles; that on the 21 day of March, A. D. 1887, the plaintiffs entered into a contract with Jones, Forrest & Bodkin, which is in terms as set forth in the foregoing bill of exceptions, and that the parties have stipulated in writing as set forth in the bill of exceptions, and that the defendant was at all times aware that the plaintiffs had made the said agreement with Jones, Forrest & Bodkin and never objected thereto.

31 The court further finds that the work covered by the contract was, for the purpose of construction, divided by the defendant into four divisions, and that the work of each division was by the defendant put in charge of an assistant or division engineer, who was employed by the defendant and acted under the general direction of the chief engineer of the defendant.

The court further finds that the plaintiffs, through Jones, Forrest & Bodkin and their sub-contractors, performed the said work according to the terms of the said contract, and that the same has been accepted and taken possession of by the said defendant.

The court further finds that shortly after the entering into of said contract between Jones, Forrest & Bodkin and the plaintiffs the said Jones, Forrest & Bodkin sub-let all of the work on div. 9 ex-

cept a portion of sec. 119 (respecting which section there is no controversy between the parties in this suit), and that according to the said contract of sub-letting the said sub-contractors were to receive from Jones, Forrest & Bodkin 90 % of what was coming to Jones, Forrest & Bodkin according to their contract with the plaintiffs.

The court further finds that the said sub-contractors performed their work under the charge of the division engineers; that upon the first of each month each division engineer made up and forwarded to the assistant chief engineer a paper showing his
32 estimate of the work done on each section of his division, both according to its quantities and classifications, upon which were computed and extended in the office of the said assistant chief engineer the aggregate amounts coming to said plaintiffs, under the terms of the said contract, to the beginning of said month; that said papers were headed "monthly estimate" and bore the attestation of the division engineers, and were approved by the assistant chief engineer and chief engineer; that said certificates were all in form identical with the one set forth in the preceeding bill of exceptions; that from month to month tissue copies of said certificates were delivered to the plaintiffs and payment made for the amount thereby shown to be coming to them, less 10 % reserved under the contract and less previous payments made; that each month the defendant sent to the division engineers in the field tissue copies of said certificates; that the plaintiffs sent their said tissue copies of said certificates to Jones, Forrest & Bodkin, together with their check for the amount coming due to them under the contract; that thereupon Jones, Forrest & Bodkin from time to time paid to their sub-contractors the amounts coming due to them according to the quantities and classifications of said certificates, and that the defendant had knowledge that the plaintiffs were paying Jones, Forrest & Bodkin, and that said Jones, Forrest & Bodkin were from time to time paying to their sub-contractors in accordance with said certificates.

33 The court finds that Dresler, the division engineer of division 9, sent in his last month's paper on November 1st, and that his successor, Baker, sent in a monthly paper on div. 9 on December 1, which was the last month's paper on that division and which paper adopted Dressler's figures as shown in his last monthly and added something thereto for work done subsequently.

The court further finds that the work under said contract was substantially completed, with the exception of a small amount of grading, before the last of said monthly papers was so made up and sent to the plaintiffs, and that said plaintiffs paid what was coming to Jones, Forrest & Bodkin according to the showing of said last monthly certificate, and Jones, Forrest & Bodkin, in reliance upon the correctness of said certificate, paid to their sub-contractors on division 9 (that being the only division here in dispute) what was coming to them in accordance with the showing of said last monthly

certificate, except in the case of one of their sub-contractors who was paid $880.00 less and another sub-contractor who was paid about $500.00 less than said certificate shows to have been coming, a portion of which was for work on division 9 and a portion for work on division 10, respecting which division 10 there is no dispute, but there is no evidence showing what exact portion of said $880.00 and $500.00 belonged to division 9 and what portion to division 10; that such payments by Jones, Forrest & Bodkin to their sub-
34 contractors were made at various times down to Jan. 12, 1888, but were all made before Jones, Forrest & Bodkin had any knowledge of Baker's remeasurements, hereinafter mentioned, or of any claim on the part of the defendant that Dressler's estimates were erroneous.

The court further finds that some time after the last of these monthly certificates was delivered to the plaintiffs one George T. Baker, who had had charge of div. 7, made certain remeasurements and reclassifications of the work done in div's 8 and 9; that the work on these two divisions prior to November 26th had not been done under the supervision of said Baker, but was done under the supervision of one F. F. Ames and R. Dressler respectively, and that said Baker embodied the results of his remeasurements and reclassifications in the estimate called the final estimate; which said estimate was approved by the assistant engineer-in-chief and the engineer-in-chief and delivered to the plaintiffs in March, 1888.

The court further finds that the said re-estimate and reclassification so made largely changed the quantities and classifications of the work done on division 9 from the showing of quantities and classifications of said division made in the several monthly certificates, including the one made after the substantial completion of the work as aforesaid; that said reclassification and remeasurement of said Baker were made without the co-operation or knowledge of the plaintiffs or their sub-contractors, and that the plaintiffs had
35 paid to Jones, Forrest & Bodkin, and Jones, Forrest and Bodkin had made payments to their sub-contractors under their said contracts, as above set forth, and according to the quantities and classifications shown by the monthly certificates before either of them had knowledge of said Baker's remeasurements and reclassifications.

The court further finds that the said last monthly certificate of the work on div. 9 could, with reasonable care upon the part of the division engineer, have been made nearly accurate, and that upon the assumption of the correctness of said Baker's so-called final estimate the discrepancy between it and the said certificate could be the result only of negligence or incompetency upon the part of the division engineer in charge of said division unless the said division engineer was purposely dishonest; but the court finds that there was no proof of dishonesty in which the plaintiffs or their sub-contractors took any part or of which they had any knowledge.

The court further finds that the effect of the said monthly certificates of quantities and classifications of work done on division 9 was to cause the plaintiffs to pay to Jones, Forrest & Bodkin more on account of each of said certificates than they would have paid if said certificates had been made according to the remeasurement and reclassification of said Baker, and Jones, Forrest & Bodkin in turn to pay more to their sub-contractors than they would have
36 paid if the said monthly certificates had been made according to Baker's remeasurement and reclassification; so that if the plaintiffs are to be paid for the entire work according to the revision made by Baker they will be the losers to the extent of the errors said to have been corrected on division 9.

The court further finds that according to the said estimate of Baker, upon the divisions other than division 9, there is a balance due to the plaintiffs from the defendant of $17,351.68, and that on the basis of the last monthly certificate of Dresler on division 9, viz., the certificate of November first, as above set forth, there is a balance due on that division of $11,586.48, in which amount is included so much of the sums of $880.00 and $500.00 as is applicable to division 9, as above referred to.

The court therefor- finds in favor of the plaintiffs for the amount of $28,938.16.

In view of the facts above found the court finds as a matter of law that plaintiffs and Jones, Forrest & Bodkin had the right to rely upon the substantial correctness of the certificates made from month to month by the division engineer, Dressler, and that Jones, Forrest & Bodkin had the right to pay their sub-contractors on the basis of those monthly certificates as to quantities and classifications of work done, and that defendant's engineers could not, after the work was done and after plaintiffs and Jones, Forrest & Bod-
37 kin had acted on the faith of the monthly certificates of Dressler, remeasure and reclassify the work so as to materially reduce the amount to be paid for said work, and that plaintiffs are entitled to recover for the quantities and classes of work shown by Dressler's last monthly certificate, which is the basis of the damages awarded them, so far as the work done on division 9 is concerned.

H. W. BLODGETT, *Judge.*

(Endorsed:) Filed April 6, 1889. Wm. H. Bradley, clerk.

38 On the same day, to wit, on the sixth day of April, in the adjourned March term of said court, 1889, in the record of the proceedings thereof in said entitled cause, before Hon. Henry W. Blodgett, district judge, is the following entry, to wit:

Judgment.

JOHN R. PRICE, W. J. McGAVOCK, and REES R. PRICE, a Firm Doing Business under the Name of Price, McGavock & Company, for the Use of Francis A. Jones, William M. Forrest, and Andrew Bodkin, Doing Business under the Firm Name of Jones, Forrest, and Bodkin, *vs.* THE CHICAGO, SANTA FÉ AND CALIFORNIA RAILROAD COMPANY.	Assumpsit.

The court, having considered and being now fully advised upon the matters heretofore submitted herein, finds the issues for the plaintiffs and assesses the plaintiffs' damages at the sum of twenty-eight thousand nine hundred and thirty-eight dollars and sixteen cents. It is thereupon considered and adjudged by the court that said plaintiffs do have and recover of said defendant the said sum of twenty-eight thousand nine hundred and thirty-eight dollars and sixteen cents, their damages, together with their costs and charges in this behalf expended, amounting to — dollars and — cents,
39 and that they have execution therefor.

40 On the hearing of said cause the following exceptions were taken and were allowed by the court and made of record; which said exceptions are in the words and figures following, to wit:

Bill of Exceptions.

UNITED STATES OF AMERICA, *Northern District of Illinois,* } *ss:*

In the Circuit Court of said District.

JOHN R. PRICE, for the Use of, &c., *vs.* CHICAGO, SANTA FÉ & CALIFORNIA R. R.

Be it remembered that on the trial of said above-entitled cause at the October term of said court, 1888, before the Hon. Henry W Blodgett, district judge, sitting as the judge of the circuit court, without a jury, the parties having by stipulation waived a jury, the following proceedings were had, to wit: The plaintiff introduced ev

dence tending to prove that the defendant is a railroad corporation of the State of Illinois, and during the year 1887 was engaged in the construction of a railroad in said State, and on or about March 21, 1887, the defendant entered into a contract with the plaintiffs, Price, McGavock & Co., for the construction by the plaintiffs of the embankment of a portion of its railroad, extending from Galesburg, Ill., west to the bank of the Mississippi river, a distance of
41 & 42 about fifty miles; which contract was in the following form, to wit:

43

EXHIBIT "A."

Chicago, Santa Fé & California Railway Company.

Conditions and Proposals for Graduation and Bridge Erection.

Conditions.

Bids must be made separately on each of the following divisions, viz:
First fifty (50) miles eastward from station thirty (30), east bank of Mississippi river.
Parties must agree to accept the award of the work bid upon on either or all of these divisions unless specified to the contrary in the bid.

Proposals.

The undersigned hereby certify that they have carefully examined the profiles and specifications of the Chicago, Santa Fé & California Railway Company and hereby propose to the chief engineer of said railway company to do all the work specified on all or any of the sections named below at the annexed prices.

The undersigned further agree to commence work on or before the first day of April, 1887, and complete the work so as not to interfere with completion of track, as follows:

First fifty (50) miles eastward from station thirty (30), east bank of Mississippi river, to be completed the first (1st) day of August, '87.

No. division.	Clearing, per acre.	Grubbing, per acre.	Price per cubic yard.								Piles driven, each.	Timber, feet, B. M.	Extra work, cost plus—per cent.
			Earth-work			Rock-work.		Haul on earth or rock per 100 ft.	Riprap.	Slope wall.			
			Excavation hauled.	Excavation wasted.	Embank'nt borrowed.	Loose rock.	Solid rock.						
First fifty (50) miles eastward from station thirty (30), east bank of Mississippi river.	.....	.....	.....	13c.	13c.	When eight (8) feet or less in depth or height, except station thirty (30) to four hundred (400) of sections 1 to 7, inclusive, and stations 1012 to 1540, in breaks of Ellison creek.							
	.....	.....	.....	15c.	15c.	When over eight feet in depth or height and all excavation wasted or embankment borrowed on station 30 to 400 of sections one (1) to seven (7), inclusive, and station 1012 to 1540 in breaks of Ellison creek.							
	$20 00	35 00	20c.	....	....	45c.	85c.	.01c.	....	.....	.....	.....	Ten (10) %.

Contractors: PRICE, McGAVOCK & CO.

References:

—— ——,

Post-office address, —— ——.

Signed this twenty-first day of March, 1887.

44 *Specifications.*

Chicago, Santa Fé & California Railway Co.

Graduation.

All work shall be done in a neat and workmanlike manner, and under the supervision of the engineer in charge, and shall conform to the following general rules, unless otherwise directed:

1. Excavation in earth shall be taken out with twenty-two (22) feet base and slopes of one-half ($\frac{1}{2}$) to one and one-half ($1\frac{1}{2}$) horizontal to one (1) vertical.

When excavation is wasted or put in spoil banks it shall not be deposited nearer than fifteen (15) feet of the slope stakes, unless by permission of the engineer in charge.

2. Excavations in loose rock shall be taken out with eighteen (18) feet base and slopes of one-fourth ($\frac{1}{4}$) to one-half ($\frac{1}{2}$) horizontal to one (1) vertical.

Loose rock shall comprise, first, shale or soapstone lying in its original or stratified position, coarse boulders in gravel, cemented gravel, hard-pan, or any other material requiring the use of pick and bar, or which cannot be plowed with a strong ten (10) inch grading plow well handled, behind a good six (6) mule or horse team; second, detached rock or boulders in masses exceeding one and one-half ($1\frac{1}{2}$) cubic feet and less than one (1) cubic yard.

3. Excavations in solid rock shall be taken out with eighteen (18) feet base and slopes of one-fourth ($\frac{1}{4}$) to one-half ($\frac{1}{2}$) horizontal to one (1) vertical.

Solid rock shall comprise, first, rock in solid beds or masses in its original or stratified position; second, boulders or detached masses of rock exceeding one (1) cubic yard, and all other material which in the judgment of the engineer cannot be removed without being blasted.

4. All excavations shall be taken out to the plane of the true measured prisms—*i. e.*, no projections will be allowed beyond the true plane of the slopes toward the center line.

5. Road-bed and ditches.—The road bed in cuts shall be fourteen (14) feet wide in earth and twelve (12) feet wide in loose and solid rock excavation, leaving in earth excavation a ditch on each side four (4) feet wide on top; in loose and solid rock excavation, a ditch on each side three (3) feet wide on top. All ditches must be at least one (1) foot deep.

Solid-rock excavation will be taken out one (1) foot below grade and filled in again to the true grade line with good material for road-bed.

6. Embankments.—Embankments of earth shall be made with sixteen (16) feet road-bed and slopes of one and one-half ($1\frac{1}{2}$) horizontal to one (1) vertical

Embankments of rock shall be made with sixteen (16) feet road-bed and slopes of one (1) horizontal to one (1) vertical.

Where there is a choice of material, the best shall be used on top of the embankment for at least one (1) foot in depth.

When the bank is three (3) feet or less in height a berme of six (6) feet shall be left; between three (3) feet and ten (10) feet a berme of eight (8) feet shall be left, and for banks ten (10) feet or higher a berme of ten (10) feet shall be left.

In all cases borrow pits with the bermes given above shall not have on the sides toward the road-bed a less slope than the embankment.

When necessary in the judgment of the engineer, all earth shall be borrowed on one side of the road-bed or the width of the berme increased.

Embankments built without borrow pits along side shall have a ditch cut, without extra charge, with bermes as indicated above, unless the excavation is in excess, in which case said ditches must be included in the estimate.

In all cases an allowance for shrinkage will be added to the height of the embankment, or the embankment may be built to the true profile grade and the shrinkage deducted from the estimate.

As far as possible, embankments shall be started at the base the full width indicated by the slope stakes and built to the true slope, without widening, from loose material from the top.

When material from excavation is hauled into embankments the surplus from any cut, when so directed by the engineer in charge, shall be used to uniformly widen the embankments without extra charge over contract price.

7. All material from excavations which can be deposited in embankments within 100 feet shall be paid for in embankment alone, and without haul. When embankments are made from borrow pits no haul shall be allowed when the outer edge of the borrow pit is less than 100 feet from the foot of the slope of the embankment. All earth taken from borrow pits more than 100 feet and less than 200 feet from the foot of the slope of the embankment shall be paid for as "embankment borrowed," and haul shall be allowed at the contract rate, and for the full distance from where the earth is taken to where it is deposited.

All earth taken from borrow pits more than 200 feet from the foot of the slope of the embankment shall be paid for at the price of "earth excavation hauled," and haul shall be allowed at the contract rate, and for the full distance from where the earth is taken to where it is deposited.

When earth is wasted from excavations, rules similar to the above will apply.

Whenever, by direction of the engineer in charge, earth from excavations is hauled any required distance into embankments the material shall be paid for in excavation only, and at the price of "earth excavation hauled," and the haul shall be allowed for the full distance from the place where the earth is taken out to the place where it is deposited.

Where no instructions are given by the engineer in charge the estimates of quantities and of haul of earth will be made in accord-

ance with the latter clause of section twelve of these specifications, and the haul limit will be such a distance that the contract price for excavation hauled plus the haul of earth from where taken to where deposited shall equal the price of excavation wasted plus embankment borrowed.

8. All rules relative to haul of earth will apply with equal force to haul of loose or solid rock.

45 9. Rock, coal, or other valuable material shall, when required, be saved and deposited in piles convenient for the future use of the railroad company, in such manner and place as shall be directed by the engineer in charge. When the embankment is in excess the quantity of stone or other material thus saved shall be paid for at the contract price for earth, loose or solid rock, plus the contract price for earth excavation.

10. Classification.—There shall be no classification of material of any kind other than earth, loose and solid rock, as provided for in these specifications.

11. Measurement will be made by the cubic yard of twenty-seven (27) cubic feet from true measured prisms indicated by the cross-section notes or slope stakes of the engineer.

When measurement is made in embankment an allowance for shrinkage will be used in making estimates as follows: Ten per cent. on casting or shovel work; five per cent. on scraper-work, and seven per cent. on wagon-work. These percentages may be deducted from the true measured prisms, or the embankments may be required to be raised that much higher, at the discretion of the engineer.

12. Estimates on that part of the work where the material from the excavation is to be put into the embankments, excavation or embankments only will be estimated, the quantity in excess being paid for. On that part of the work where material is wasted and borrowed estimates will include both excavation and embankment, subject to the provisions of section seven (7) of these specifications.

Excavations may be wasted and embankments borrowed, except in cases where the engineer in charge of the work shall direct that excavations shall be hauled into embankments; but where earth is hauled from excavation to embankment it shall only be measured and estimated in the excavation.

In all cases the work will be estimated so as to make the least cost—that is, earth from excavations will be estimated as having been hauled to such a point as that the price for "earth excavation hauled" plus the price for "haul of earth" shall equal the price for "excavation wasted" plus the price for embankment borrowed, and the estimate shall be thus made regardless of the fact that the contractor may have preferred to "waste and borrow" within the "haul limit."

13. Temporary bridge or haulway.—When the engineer in charge so directs, material will be hauled over or beyond any bridge opening, and the contractor shall construct such temporary bridge or haulway over or around said opening, and shall receive therefor

actual cost of such bridge or haulway, including labor and material, plus ten (10) per cent. on such cost.

14. Timber and plank will be used in box culverts; also cast-iron pipe, in sizes eighteen (18) to thirty-six (36) inches in diameter, with joints laid in cement.

Contractors will be required to haul and put these culverts in position at cost plus — percentage for use of tools and supervision.

The railroad will furnish all material, including cement, nails, and spikes.

15. Clearing.—The right of way will be cleared for at least fifty (50) feet each side of center line, or, if the engineer in charge directs, to full width of right of way.

All valuable timber on the right of way is the property of the railroad company or the land-owner, and must be cut into cord-wood if required by the railroad company, for which proper charge will be made.

All remaining trees, brush, logs, or other perishable materials will be either removed from the right of way or burned, as the engineer in charge may direct.

16. Grubbing.—All roots, stumps, and grubs must be removed within limits of slope stakes, and within six feet of such slope stakes, under all embankments two feet or less in height; under all other embankments, and for the same distance from slope stakes, all stumps, brush, or grubs must be cut off even with the surface of the ground.

Measurements for grubbing will include all area under embankments and within six feet of slope stakes; also all area within slope stakes of excavations and within area of all necessary borrow pits where grubbing is necessarily done.

17. Riprap.—Riprap shall consist of a covering of durable, fair-sized stone, placed promiscuously to depth required. No material within regular prism of embankment shall be paid for as riprap.

18. Slope wall will be made from rock of such quality and dimensions as is approved by the engineer in charge. The wall will generally be laid one (1) foot to one and one-half ($1\frac{1}{2}$) feet thick, and the foundation must be laid in accordance with the stakes of the engineer or as by him directed. The stones used shall be laid with their beds at right angles to the plane of the slope to be protected.

The work shall be well bonded and present a reasonably true and smooth surface, free from holes or projections that would endanger the wall from floating drift-wood.

These specifications accepted March 21st, 1887.

(Signed) PRICE, McGAVOCK & CO., *Contractors.*

46 TOPEKA, KANSAS.

This agreement, made and concluded this twenty-first (21) day of March, A. D. 1887, by and between John R. Price, Reese R. Price, and Wm. J. M. McGavock, all of Topeka, Kansas, and constituting the firm of Price McGavock and Company, of the first part, and the Chicago, Santa Fé and Califo nia Railway Company, a corporation duly organized under the laws of the State of Illinois and

doing business in said State, of the second part, witnesseth as follows, to wit:

The aforesaid party of the first part, in consideration of the prices hereinafter agreed to be paid to them by the party of the second part, hereby agree and bind themselves to construct and in every respect to complete the grubbing and clearing, grading and masonry, including the furnishing of materials and all other things requisite and necessary to complete the road-bed and prepare the same ready for receiving the superstructure, upon that portion of the rail — of the party of the second part known and designated as section —, number — the first fifty (50) miles eastward from station thirty (30), east bank of Mississippi river, of the Chicago, Santa Fé and California railway, in such a manner as will conform in every respect to the annexed specifications and to the following conditions, viz:

1st. That the work shall be commenced within ten (10) days after the execution of these presents, or as soon after as the railway company shall have acquired a title to the lands, and shall be completed on or before the first (1) day of August, one thousand eight hundred and eighty-seven.

Clause 1. 2d. The work shall be executed under the direction and supervision of the chief engineer of said railway company and his assistants, by whose measurements and calculations the quantities and amounts of the several kinds of work performed under this contract shall be determined and whose determination shall be conclusive upon the parties, and who shall have full power to reject or condemn all work or materials which in his or their opinion do not fully conform to the spirit of this agreement; and said chief engineer shall decide every question which can or may arise between the parties relative to the execution thereof, and his decision shall be binding and final upon both parties; and whereas the classification of excavation provided for in the annexed specifications is of a character that makes it necessary that special attention should be called to it, it is expressly agreed by the parties to this contract that the determination, by the measurements and calculations of the said engineer, of the respective quantities of such excavation shall be final and conclusive.

3d. The several stipulations of this contract shall be performed in such a manner that the party of the first part shall not be relieved from the immediate charge and responsibility of the work, and no part thereof shall be transferred or subcontracted unless by the sanction and approval in writing of the party of the second part.

4th. If any foreman, agent, mechanic, or laborer employed by the contractors shall, in the opinion of the engineer, execute his work in an unfaithful or unskillful manner, or in any respect prove remiss or inadequate to the performance of his duties, or disrespectful or riotous in his conduct, he shall forthwith, by the direction of the engineer, be discharged; and no person shall be employed on the work in the capacity of foreman or overseer who has previously been discharged for neglect or unfaithfulness from any work within the knowledge of the contractor or of said engineer.

5th. If any damage shall be done by the party of the first part (or persons in their employ) to the owners or occupants of lands or other property adjoining or in the vicinity of the work herein contracted to be done the engineer of said company shall have the right to estimate the amount of said damage and to pay the same to said owner or occupant, and the amount so paid for such damage shall be deducted from the value of work done under this contract.

6th. All the work done under this contract shall be performed without the use of ardent spirits.

7th. All roads to quarries, quarry leave, roads for hauling materials, and ways to and from the work; also all grounds for the deposit of materials and the erection of shanties or yards for the performance of work not within the limits of the company's lands are to be paid for by the party of the first part at their own proper charge and expense.

The aforesaid party of the second part hereby agrees that whenever this contract shall be completely performed on the part of the said party of the first part and the engineer has certi-
Clause 3. fied the same in writing, the said party of the second part shall, within ten days thereafter, pay to said party of the first part any remaining sums due for said work, according to this contract, as follows, to wit:

For clearing, per acre, twenty (20) dollars.

For grubbing, per acre, thirty-five (35) dollars.

For embankment borrowed and excavation wasted, where eight (8) feet or less in depth or hight*h*, except station- 30 to 400 of sec. 1 to 7, incl., and station- 1012 to 1540, in breaks of Ellison creek.

For excavation of earth wasted and embankment borrowed, where over eight feet in depth or hight*h*, and all ex. or em. on stat. 30 to 400 of sec. 1 to 7, incl., and sta. 1012 to 1540, in breaks of Ellison creek, fifteen (15) cents per cubic yard.

For excavation of earth, per cubic yard, hauled, twenty (20) cents.

For haul of earth or rock, per 100 feet, per cubic yard, one (1) cent.

For excavation of loose rock, per cubic yard, forty-five (45) cents.

For excavation of solid rock, per cubic yard, eighty-five (85) cents.

For bridge masonry, laid in cement, per cubic yard, —.

For arch masonry, laid in cement, per cubic yard, —.

For culvert masonry, laid in cement, per cubic yard, —.

For rubble masonry, laid in lime mortar, per cubic yard, —.

For rubble masonry, laid in cement, per cubic yard, —.

For riprap, per cubic yard, —.

All extra work at cost plus ten per cent.

47 Excavation may be wasted and embankment borrowed excepting in cases where the engineer in charge of the work shall direct that excavation shall be hauled into embankment; but when earth is hauled from excavation into embankment it shall be estimated and measured in the excavation only. In all cases the work will be estimated so as to make the least cost—that is, earth from excavation will be estimated as having been hauled to such a point as that the price for earth excavation hauled plus the price

for haul of earth shall equal the price of excavation wasted plus the price for embankment borrowed, and the estimate shall be thus made regardless of the fact that the contractors may have preferred to waste and borrow within the haul limit.

It is further agreed by the party of the first part that in no case, without the written consent of the chief engineer, shall the wages for unskilled day's labor exceed one dollar and seventy-five cents ($1.75) for ordinary labor and two (2) dollars for rock men per man per day, and the wages for team and man, with tools for same, shall not exceed four dollars ($4.00) per day.

The prices named for the foregoing items are intended as full consideration for labor and materials.

Clause 2d. It is further agreed between the parties that monthly payments shall be made by the party of the second part, on the certificate of the engineer, for work done, deducting ten (10) per cent. from the value of work done, as agreed compensation for damages, to be forever retained by the party of the second part in case the whole amount of work herein named shall not be done in accordance with this agreement.

For the purpose of avoiding all causes of difference or dispute between the parties to this contract relative to its true intent or meaning, and for the purpose of adjusting in an amicable manner any difference that may or can arise relative thereto, it is hereby mutually understood and agreed by the parties as follows, to wit:

1. No extra charges will be claimed or allowed on account of changes, either in the line or grade of the road, the prices herein mentioned being considered as full compensation for the various kinds of work herein agreed to be performed.

2. Whenever work is required to be done which is not now contemplated or covered by the prices herein mentioned the engineer shall fix such prices for the work as he shall consider just and equitable, and the said parties shall abide by such prices, provided the party of the first part enter upon and commence such work with full knowledge of the prices so fixed by the engineer; but if the party of the first part decline executing said work at the price fixed by the engineer, then the party of the second part may enter into contract with any person or persons for its execution, the same as if this contract had never existed; and if extra work or work not provided for in this contract, is performed by the contractors, without protest or notice in writing to the engineer and to the party of the second part before prices shall have been fixed to such work, then the engineer shall estimate the same at such prices as he shall deem just and reasonable, and his decision shall be final, and the party of the first part shall accept of said prices in full satisfaction of all demands against the party of the second part for said extra work; but nothing shall be deemed extra work that can be measured or estimated under the provisions of this contract.

3. If the party of the first part refuse or unreasonably neglect to remedy any imperfections which may be pointed out by the engineer, or in any manner violate the conditions of this contract so that in the judgment of the engineer there shall be just grounds

for apprehension that the work will not be completed in the manner and within the time specified, then it shall be the duty of the party of the second part to serve a written notice upon said party of the first part, setting forth the grounds of said engineer's apprehensions and specifying the manner, together with a reasonable time, in which said party may cause such grounds to be removed; and if at the expiration of such time said grounds of apprehension be not removed, the full power and authority is hereby mutually vested in said engineer to declare this contract forfeited; and on such declaration being given in writing by the engineer to the parties hereto this contract shall cease and determine immediately, and the said party of the second part may forever retain the ten (10) per cent. on account of the consideration of damages which they may have sustained by reason of the forfeiture of this contract, and the party of the first part hereby agrees to promptly relinquish possession of such work or of the materials designated or procured therefor, and to place the same in the hands of the said party of the second part in such manner as will enable them to complete the work without hindrance or delay; and said second party shall have the right to re-enter and expel and remove therefrom-the said first party or any person or persons, using such force and means as may be considered necessary for the purpose; and they further agree to relinquish all claim to the ten (10) per cent. retained by the party of the second part on account of said work as above specified; or, in case the party of the second part deems it expedient, upon notice in writing from the said engineer to the party of the first part, that there is not a sufficient force employed upon the said section or any part thereof to complete it in the manner and within the time herein specified, the said party of the second part may employ and put upon the said section or any part thereof (and have full possession of the same) such additional force as the said engineer may deem necessary, the expense of the same to be paid by the party of the first part, to be deducted from the estimates of the said party of the first part for work done.

4. It is further agreed by the party of the first part that such portions of the above work as the said engineer may require shall be completed and prepared for the superstructure as soon as practicable, and that when such portion or portions are made ready for the superstructure the said party of the second part may take possession of the same for the purpose of laying down the superstructure, notwithstanding the time for completing the whole of the above contract may not have expired.

5. It is expressly agreed by the party of the first part that the party of the second part may at any time pay so much of the money due the party of the first part on the running or final estimates above mentioned to the laborers employed by the party of the first part as may be due said laborers and charge the same to the party of the first part.

6. In case any or all work embraced in this contract shall be permanently suspended by and on account of the party of the second part, which it is hereby agreed the party of the second part may do,

for other causes than heretofore provided in this contract, then in that case all further operations under this contract shall be suspended within three (3) days after receiving written notice from the party of the second part requiring the further progress of the work to be suspended, and the party of the first part shall have their choice either to consider such suspension temporary and resume work on the same within ten (10) days after receiving notice to resume work, or may consider the same at an end, and shall receive full pay for all work by them performed under this contract, and at the prices herein stipulated, upon the estimate of the engineer, which shall be final and conclusive between the parties to this contract; which estimates shall not include any anticipated profits that might have accrued from the completion of the said work, it being understood that no claim for damages shall be made by the party of the first part on account of any profits that might accrue from the completion of the same.

In witness whereof the parties to these presents have hereunto set their hands in duplicate and attached their seals the day and year first above written.

PRICE, McGAVOCK AND CO.
CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY,
By P. F. BARR, *Chief Engineer.*

In presence of—

C. H. CURTIS.

Approved.

NORMAN WILLIAMS, *President.*

47½ [Endorsed:] Mr. Hall's copy. A. Contract. Price, McGavock and Co. and the Chicago, Santa Fé and Cala. Railway Company. March 21st, 1887. Pl'ffs' Ex. A.

48 That afterwards, about the 26th day of March, 1887, said Price, McGavock & Co. entered into a contract with Francis A. Jones, Wm. M. Forrest, and Andrew Bodkin, a partnership under the name of Jones, Forrest & Bodkin, which contract is in form identical with the agreement above set forth, except as to the names of the parties and except that it contains in clause 7th the following in lieu of that part of said clause after the words "according to this contract, as follows, to wit:"

Ninety per cent. of the prices paid to the said parties of the second part by the Chicago, Santa Fé & Cal. R. R. Co. for doing said work, except for solid rock & — % for doing extra work, which said parties of the second part agree to pay in toto to said parties of the first part.

49 The plaintiffs also produced a stipulation in writing whereby it was agreed that if it should appear by evidence in this case that Price, McGavock & Co. assigned to Jones, Forrest & Co. or Jones, Forrest & Bodkin the whole or any portion of the contract above mentioned, said railway company will make no objection to such assignment on account of any prohibition thereof contained in said contract.

The plaintiffs introduced further proof tending to show that the said Jones, Forrest & Bodkin sub-let a considerable part of the said work to sub-contractors, who under the contracts of sub-letting were entitled to receive 90 % of the amounts coming due to Jones, Forrest & Bodkin on account of their contract with Price, McGavock & Co., and that the fact of the said sub-letting was known to the division engineers in charge of the work and to the assistant chief engineer, Vaughn, and, in some instances at least, to the treasurer and president of said defendant.

To the giving of said evidence defendant duly objected, but the court overruled the objection; to which defendant then and there excepted.

The plaintiffs introduced further proof tending to show that in the month of April the said Jones, Forrest & Bodkin, by themselves and their sub-contractors, began the construction of said fifty miles of road, which was divided by the railroad company for its own convenience into four divisions, known as divisions 7, 8, 9,
50 and 10; that division 7 was in the charge of George T. Baker, as division engineer; division 8 was in the charge of F. F. Ames, division engineer; division 9 was in the charge of R. Dressler, division engineer; division 10 was in the charge of J. H. Degranges, div. engineer. It was, however, agreed between the parties that there was no controversy arising in divisions 7 and 10, and that all said division engineers were subordinate to and under control of G. W. Vaughn, assistant chief engineer, whose office was at Chicago, and of A. A. Robinson, chief engineer, whose office was at Topeka, Kansas; that said Vaughn was familiar with the ground and was in the habit of visiting the work once in two or three weeks.

The plaintiffs introduced further testimony tending to show that the work of constructing the said railroad was executed by them and their sub-contractors under the charge of the said division engineers respectively; that the sources from which embankment borrowed should be taken, the place to which excavation wasted should be hauled, the instances in which excavation should be hauled into the embankment and when wasted, the courses to be taken by the teams in borrowing, wasting, and otherwise hauling, and other matters of detail, some of which depended upon the order in which the work should be done and upon the topography of the land on which the work was done, were determined and pointed out
51 by the division engineers in charge and were executed by the said Jones, Forrest and Bodkin and their sub-contractors in accordance therewith.

To said evidence defendant objected, but the court overruled the objection; to which defendant then and there excepted.

The plaintiffs introduced further proof tending to show that the work of building the said railroad was continued through the summer, reaching completion at various points at different times from June onward, and that early in October all the said work was completed, except some of the work necessary for side tracks, station grounds, and some bridge ends made necessary by changes in the length of the bridges.

It was agreed by the parties to the suit that the work of the plaintiffs was performed in accordance with the requirements of the agreement, and has been accepted and used by the defendant.

The plaintiffs introduced further testimony tending to prove that on or about the first day of November, A. D. 1887, the several division engineers each sent to the office of the assistant chief engineer in Chicago a paper purporting to show the whole amount, both in quantity and classification, of work performed upon such divisions up to the first of November of that year; that upon the papers thus sent by the division engineers, and showing the quantities and classifications of the said work already accomplished under the
52 direction of the said assistant engineer, the prices for said work, according to quantities and classifications, were carried out in their aggregate amounts; that the paper thus made up from the papers sent by Division Engineer Dressler on the first of November and attested by the said Dressler is as follows:

53 *7th Monthly Estimate.*

Duplicate. Copy.

Auditor's No., —.
Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Topeka, Kansas, Dr.

1887, Nov. 1:

For grading performed on division No. 9 up to November 1st, 1887, under terms of contract of March 21st, 1887, viz:

Section No. 109:

To	3,487 cu. yds. earth embk. borrowed	@	15c.	523 05		
"	11,375 " " excav. wasted	"	"	1,706 25		
"	0.64 acres clearing	"	20.00	12 80		
"	0.64 " grubbing	"	35.00	22 40		
					2,264	50

Section No. 110:

"	9,984 cu. yds. earth excava. wasted	@	15c.	1,497 60		
"	4,289 " " embk. borrowed	"	"	643 35		
"	38,597 " " excava. hauled	"	20c.	7,719 40		
"	235,332 " " " " 100 ft.	"	1c.	2,353 32		
"	2.65 acres clearing	"	20.00	53 00		
"	0.97 " grubbing	"	35.00	33 95		
					12,300	62

Section No. 111:

"	12,298 cu. yds. earth embk. borrowed	@	15c.	1,844 70		
"	83,392 " " excava. hauled	"	20c.	16,678 40		
"	467,025 " " " " 100 ft.	"	1c.	4,670 25		
"	1.01 acres clearing	"	20.00	20 20		
					23,213	55

Section No. 112:

"	12,580 cu. yds earth embk. borrowed	@	15c.	1,887 00		
"	2,275 " " excav. wasted	"	15c.	341 25		
"	46,697 " " " hauled	"	20c.	9,339 40		
"	267,082 " " " " 100 ft.	"	1c.	2,670 82		
"	6.90 acres clearing	"	20.00	138 00		
"	2.42 " grubbing	"	35.00	84 70		
					14,461	17

Section No. 113:

"	15,252 cu. yds. earth embk. borrowed	@	15c.	2,287 80		
"	584 " " excav. wasted	"	"	87 60		
	Carried forward			2,375 40	52,239	84

54 *7th Monthly Estimate.*

Duplicate. Copy.

Auditor's No., —.

Recorded in ——, 188-.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Topeka, Kas., Dr.

1887:

	Bro't forward			2,375 40	52,239 84
	Section No. 113:				
To	34,012 cu. yds. earth excav. hauled	@	20c.	6,802 40	
"	261,601 " " " " 100 ft.	"	1c.	2,616 01	
"	4.42 acres clearing	"	20.00	88 40	
"	1.38 " grubbing	"	35.00	48 30	
					11,930 51
	Section No. 114:				
"	5,828 cu. yds. earth embk. borrowed	@	15c.	874 20	
"	5,653 " " excav. wasted	"	"	849 45	
"	13,351 " " " hauled	"	20c.	2,670 20	
"	88,868 " " " " 100 ft.	"	1c.	888 68	
					5,282 53
	Section No. 115:				
"	11,258 cu. yds. earth embk. borrowed	@	15c.	1,688 70	
"	11,743 " " excav. hauled	"	20c.	2,348 60	
"	70,226 " " " " 100 ft.	"	1c.	702 26	
"	0.75 acres clearing	"	20.00	15 00	
"	0.49 " grubbing	"	35.00	17 15	
					4,771 71
	Section No. 116:				
"	8,085 cu. yds. earth embk. borrowed	@	15c.	1,212 75	
"	9,302 " " excav. hauled	"	20c.	1,860 40	
"	30,027 " " " " 100 ft.	"	1c.	300 27	
					3,373 42
	Section No. 117:				
"	11,088 cu. yds. earth embk. borrowed	@	15c.	1,663 20	
"	6,061 " " excav. hauled	"	20c.	1,212 20	
"	35,236 " " " " 100 ft.	"	1c.	352 36	
	Between stations 1012 and 927 after leaving breaks in Ellison creek:				
"	1,177 cu. yds. earth embk. borrowed	@	13c.	543 01	
"	7,520 " " excav. hauled	"	20c.	1,504 00	
"	393 " " " wasted	"	13c.	51 09	
"	25,696 " " " hauled 100 ft.	"	1c.	256 96	
"	0.22 acres clearing	"	20.00	6 40	
	Carried forward			5,589 22	77,598 01

55 *7th Monthly Estimate.*

Duplicate. Copy.

Auditor's No., —.
Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Topeka, Kas., Dr.

1887:					
Bro't forward				5,589 22	77,598 01
Section No. 117:					
To 0.32 acres grubbing		@	35.00	11 20	
					5,600 42
Section No. 118:					
" 10,055 cu. yds. earth excav. wasted		@	13c.	1,307 15	
" 2,361 " " " " over 8 ft.		"	15c.	354 15	
" 1,657 " " embk. borrowed,		"	"	248 55	
" 49,357 " " excav. hauled		"	20c.	9,871 40	
" 174,620 " " " 100 ft.		"	1	1,746 20	
" 0.26 acres clearing		"	20.00	5 20	
" 0.26 " grubbing		"	35.00	9 10	
					13,541 75
Section No. 119:					
" 6,741 cu. yds. earth embk. borrowed		@	13c.	876 33	
" 6,626 " " " " over 8 ft.,		"	15c.	993 90	
" 7,657 " " exca. wasted " "		"	"	1,148 55	
" 6,000 " " " hauled		"	20c.	1,200 00	
" 12,130 " " " " 100 ft.		"	1c.	121 30	
" 2.44 acres clearing		"	20.00	48 80	
" 1.12 " grubbing		"	35.00	39 20	
					4,428 08
Section No. 120:					
" 3,586 cu. yds. earth embk. borrowed		@	13c.	466 18	
" 14,667 " " " " over 8 ft.,		"	15c.	2,200 05	
" 25,023 " " exca. hauled		"	20c.	5,004 60	
" 57,240 " " " " 100 ft.		"	1c.	572 40	
" 5.47 acres clearing		"	20.00	109 40	
" 3.45 " grubbing		"	35.00	120 75	
					8,473 38
Section No. 121:					
" 12,498 cu. yds. earth embk. borrowed		@	13c.	1,624 74	
" 1,318 " " exca. wasted		"	"	171 34	
" 3,818 " " embk. borr'd, over 8 ft.,		"	15c.	572 70	
" 2,080 " " exca. wasted " "		"	"	312 00	
" 14,653 " " " hauled		"	20c.	2,930 60	
Carried forward				5,611 38	109,641 64

56 *7th Monthly Estimate.*

Duplicate. Copy.

Auditor's No., —.
Recorded in ——, 1888.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Topeka, Kas., Dr.

1887:				
Bro't forward			5,611 38	109,641 64
Section No. 121:				
To 41,777 cu. yds. earth exca. hauled, 100 ft.	@	1c.	417 77	
" 4.89 acres clearing	"	20.00	97 80	
" 2.75 " grubbing	"	35.00	96 25	
				6,223 20
				115,864 84
Less 10 %			$11,586 48	
" previous payments			85,439 77	
				97,026 25
				$18,838 59

Examined by—

——

Correct.
(Signed) R. DRESLER,
Div. Engineer.

Correct. C. H.

Approved. ——,
Assistant Engineer.

Approved. ——, *Auditor.*

Approved. G. W. VAUGHN,
Assistant Chief Engineer.

Charge to acc't.—See back.

No.	Amount.
3	18,838 59
	$18,838 59

Received, —— —, 188-, eighteen thousand eight hundred thirty-eight $\frac{59}{100}$ dollars, in full payment of above account.

——.

NOTE.—The above receipt must be dated and signed by the party in whose favor this voucher is made; or, when signed by another party, the authority for so doing must in all cases accompany it, and when signed "his mark," signature must be witnessed. When receipted for a railroad company or other corporation or organization the party signing will please designate his official title and name of corporation or organization. One party signing for another must give his own name in full.

[Endorsed:] Auditor's No., C. (Copy.) Dresler's 7th monthly.

57 That said paper was similar in form and was sent in, in like manner, to the other monthly papers hereinafter mentioned.

That the papers made up from the papers sent by the other resident engineers and approved by them are in like form; that at the time said papers were being thus made up there was in the office of the said assistant engineer a profile of the entire road-bed covered thereby; that each of the papers was approved by the assistant engineer-in-chief, as shown in the one copied above; that copies of the same were sent to the chief engineer at Topeka and approved by him, and that tissue copies of the same were delivered to the plaintiffs, by whom they were sent to Jones, Forrest & Bodkin; that on the first day of December like papers were sent by the division engineers to the office at Chicago, where papers were made, which were sent to the engineer-in-chief at Topeka and approved by him, and tissue copies of which were delivered to the plaintiffs and by the plaintiffs sent to Jones, Forrest & Bodkin; that the paper of December 1st relative to division 9 was made by George T. Baker, division engineer, who had taken the place of said Dressler, as hereinafter stated.

The plaintiffs introduced evidence tending to show that on or about the first of each month preceeding the said Nov. 1st, 1887, said division engineers made out like papers, upon which, in the
58 office at Chicago, papers like the one above set forth were made and certified to be correct by the division engineers and approved by the assistant chief engineer and the chief engineer at Topeka, and tissue copies of which were delivered to the plaintiffs, who in turn sent them to Jones, Forrest and Bodkin.

The plaintiffs further introduced evidence tending to prove that from month to month payments were made to the plaintiffs by the said defendant of the amount stated in said papers to be due to them on account of said work, according to the quantities and classifications therein stated, less 10 % reserved according to the terms of the contract and less the amount theretofore paid, and that from month to month the plaintiffs forwarded to Jones, Forrest and Bodkin their tissue copies of said papers, together with their check for 90 % of the amount so received by them, and that upon the receipt by Jones, Forrest and Bodkin of said letter-press copies and accompanying check they paid out, through their secretary, to their several sub-contractors the amounts due to them under their contract according to the quantities and classifications set forth in said letter-press copies, except the sum of about $800 to one sub-contractor and about 500 to another sub-contractor; to all of which the defendant objected on the ground that the same was immaterial and irrele-
vant, inasmuch as the transactions occur-ing between Price,
59 McGavock & Co. and Jones, Forrest and Bodkin could not bind or in any way affect the defendant; but the court overruled said objection and admitted the evidence; to which ruling the defendant then and there excepted.

The plaintiffs further offered evidence tending to show that the division engineers Dressler and Ames in some instances furnished

the sub-contractors of Jones, Forrest and Bodkin memoranda showing the amounts of work credited to sub-contractors respectively in the said papers, and said sub-contractors presented said memoranda to Jones, Forrest and Bodkin as a basis of current payments from month to month; but the plaintiffs made no payments to the said sub-contractors on the faith of said memoranda alone, but always resorted to the said letter press copies to ascertain how much was due to each of said sub-contractors. To the introduction of all said evidence the defendant objected on the ground that the same was immaterial and irrelevant; but the court overruled said objection and admitted the evidence; to which ruling the defendant then and there duly excepted.

The plaintiffs further introduced evidence tending to show that tissue copies of the said papers so made up in the office at Chicago and sent to Topeka were always sent to the division engineers in charge of the work and were received by said division engineers,
and that the same were sometimes used by the said division
60 engineers to show the said sub-contractors how much was due to them on account of their work from time to time in order that they might settle with Jones, Forrest and Bodkin, and that the said sub-contractors often applied to Division Engineer Dressler to know what was coming to them from month to month, and that the said Dressler informed them of the quantities and classifications according to the tissue copy so sent to him from the office at Chicago.

The plaintiffs further offered evidence tending to prove that Jones, Forrest and Bodkin, in making payments to their sub-contractors, after the receipt of the papers of November 1st and December 1st, relied upon the substantial correctness of said papers, and did not then expect any final estimate which would reduce the amount shown by said papers. To the giving of which evidence the defendant objected on the ground that the same was immaterial and irrelevant; but the court overruled the objection and admitted the evidence; to which ruling the defendant then and there excepted.

The plaintiffs further offered evidence tending to prove that the division engineers Dressler and Ames knew in many instances at the times thereof that Jones, Forrest and Bodkin were settling with their said sub-contractors in accordance with the quantities and classifications of said copies so received by them, and were paying to the sub-contractors the sums coming to them on that basis. To the
giving of which evidence the defendant objected on the ground
61 that the same was immaterial and irrelevant; but the court overruled said objection and admitted the evidence; to which ruling the defendant then and there duly excepted.

Plaintiffs further offered evidence tending to prove that several of the sub-contractors to whom such payments had been made were then and are insolvent and irresponsible, and it is impossible for Jones, Forrest and Bodkin to recover from said sub-contractors any amounts which have been paid them to which they might not have been entitled. To the giving of which evidence the defendant objected and the court sustained the objection.

The plaintiffs further offered evidence tending to show that after

the 1st of November, 1887, the plaintiffs performed further services, by themselves and their sub-contractors, upon said division 9 not included in the said certificate of November 1st, in constructing embankment for side tracks and station grounds and in removing shrinkage, which shrinkage had been added to the embankment by order of said Dressler and which plaintiffs were ordered by the defendant to remove; that the plaintiffs had never received any paper showing the amount of such work after the first of November; that the same was not included in Baker's certificate of the first of December; that the plaintiffs could not from actual measurement give any estimate thereof but by calculating the number of teams and men employed and charging therefor the stand-
62 ard rate of wages, and that the amount due the plaintiffs for such extra work performed by themselves in the months of November and December was $6,329.74. To the giving of said evidence the defendant objected on the ground that the same was immaterial, irrelevant, uncertain, and otherwise inadmissable; but the court overruled said objections and admitted the evidence; to which ruling the defendant then and there duly excepted.

The plaintiffs further introduced testimony tending to prove that the papers sent by Dressler to the Chicago office, upon which the certificate of November 1st, above set forth, was based, were made from actual measurements extending over the entire length of the division and taken on that day, and that the same was, both in quantities and classifications thereof, correct.

The defendant introduced evidence tending to prove that the work of grading was not completed on or before the first of October, and that on November 26th, when Baker took charge of division 9, there was still some grading to be done on the main line, besides a considerable amount of work on station grounds and side tracks.

The defendant also introduced evidence tending to prove that the returns made by Dressler on the first of November, upon which the certificate of that date and of December first were based, were not the correct statements of the actual quantities and proper
63 classifications of the work actually done; that Dressler had admitted that the said returns were not made up from measurements taken upon the ground, but were estimated from the number of loads reported to him by the said sub-contractors.

The defendant further introduced evidence tending to show that the directions alleged to have been given to the sub-contractors by Dressler as to the manner of doing the work, as above set forth, were inconsistent with sound and competent engineering.

The defendant further introduced proof tending to show that Dressler, after having been recalled from the field on the 26th of November, 1887, made up, in the office at Chicago, by direction of the assistant engineer in-chief, from the same field-notes from which his papers of November 1st purported to have been made, a so-called final estimate on division 9, as follows:

64 *Construction—Final Estimate of Sect's* 109 *to* 121, *Incl., Division No.* 9, *C., S. F. & C. R'y, Sta.* 771 *to Sta.* 1456.

Final estimate, section 109:

3,487 cu. yds. E. emb. borr.	@	15c.		523 05
11,480 " " " ex. wasted	"	15		1,722
0.64 acres clearing	"	20.00		12 80
0.64 " grubbing	"	35.00		22 40
				2,280 25

Final estimate, sec. 110:

1,560 cu. yds. E. emb. borr.	@	15c.		234 00
10,624 " " excav. wasted	"	15		1,593 60
39,260 " " " hauled	"	20		7,852 00
240,273 " " " " 100 ft.	"	1		2,402 73
2.65 acres clearing	"	20.00		53
0.97 " grubbing	"	35.00		33 95
				12,169 28

Final estimate, sec. 111:

10,098 cu. yds. E. emb. borr.	@	15c.		1,514 70
71,328 " " excav. hauled	"	20		14,265 60
599,432 " " " " 100 ft.	"	1		5,994 32
1.01 acres clearing	"	20.00		20 20
				21,794 82

65 Final estimate, sec. 112:

11,759 cu. yds. E. emb. borr.	@	15c.		1,765 85
2,460 " " excav. wasted	"	15		369 00
39,704 " " " hauled	"	20		7,940 80
1,500 " loose rock	"	45		675 00
215,360 " E. excav. hauled 100 ft.	"	1		2,153 60
6.90 acres clearing	"	20.00		138
2.42 " grubbing	"	35.00		84 70
				13,124 95

Final estimate, sec. 113:

5,841 cu. yds. E. emb. borr.	@	15c.		876 15
2,857 " " exc. wasted	"	15		428 55
34,465 " " " hauled	"	20		6,893 00
176,302 " " " " 100 ft.	"	01		1,763 02
4.42 acres clearing	"	20.00		88 40
1.38 " grubbing	"	35.00		48 30
				10,097 42

Final estimate, sec. 114:

6,124 cu. yds. E. emb. borr.	@	15c.		918 60
1,190 " " excav. wasted	"	15	--	178 50
9,434 " " " hauled	"	20	--	1,886 80
41,891 " " " " 100 ft.	"	01	--	418 91
0.08 acres clearing	"	20.00	--	1 60
0.08 " grubbing	"	35.00	--	2 80
				3,407 21

Final estimate, sec. 115:

10,221 cub. yds. E. emb. borr.	@	15c.		1,533 15
594 " " excav. wasted	"	15	--	89 10
12,718 " " " hauled	"	20	--	2,543 60
67,455 " " " " 100 ft.	"	1	--	674 55
0.75 acres clearing	"	20.00	--	15 00
0.49 " grubbing	"	35.00	--	17 15
				4,872 55

66 Final estimate, sec. 116:

6,900 cub. yds. E. emb. borr.	@	15c.		1,035 00
8,918 " " excav. hauled	"	20	--	1,783 60
34,245 " " " hauled 100 ft.	"	01	--	342 45
0.15 acres clearing	"	20.00	--	3 00
0.15 " grubbing	"	35.00	--	5 25
				3,169 30

Final estimate, sec. 117:

3,277 cub. yds. E. emb. borr.	@	13c.		426 01
393 " " excav. wasted	"	13	--	51 09
7,003 " " " hauled	"	20	--	1,400 60
17,188 " " " " 100 ft.	"	01	--	171 88
7,707 " " emb. borr.	"	15	--	1,156 05
4,293 " " excav. hauled	"	20	--	858 60
26,711 " " " " 100 ft.	"	01	--	267 11
0.32 acres clearing	"	20.00	--	6 40
0.32 " grubbing	"	35.00	--	11 20
				4,348 94

Final estimate, sec. 118:

857 cub. yds. E. emb. borr.	@	13c.		111 41
10,857 " E. excav. wasted	"	13	--	1,411 41
35,417 " " " "	"	15	--	5,312 55
8,829 " " " hauled	"	20	--	1,765 80
130,258 " " " " 100 ft.	"	1	--	1,302 58
0.26 acres clearing	"	20.00	--	5 20
0.26 " grubbing	"	35.00	--	9 10
				9,918 05

Final estimate, sec. 119:

6,996	cub. yds. E. emb. borr.	@	13	--	909 48
13,605	" " excav. wasted	"	15	--	2,040 75
7,291	" " " hauled	"	20	--	1,458 20
19,086	" " " " 100 ft.	"	1	--	190 86
2.44	acres clearing	"	20.00	--	48 80
1.12	" grubbing	"	35.00	--	39 20
					4,687 29

67 Final estimate, sec. 120:

6,500	cub. yds. E. emb. borr.	@	13	--	845 00
28,839	" " emb. borr.	"	15	--	4,325 85
5,576	" " excav. hauled	"	20	--	1,115 20
40,161	" " " " 100 ft.	"	1	--	401 61
5.47	acres clearing	"	20.00	--	109 40
3.45	" grubbing	"	35.00	--	120 75
					6,917 81

Final estimate, sec. 121:

6,143	cu. yds. E. emb. borr.	@	13	--	798 59
9,704	" " " "	"	15	--	1,455 60
1,858	" " excav. wasted	"	13	--	241 54
10,907	" " " hauled	"	20	--	2,181 40
76,108	" " " " 100 ft.	"	1	--	761 08
4.89	acres clearing	"	20.00	--	97 80
2.75	" grubbing	"	35.00	--	96 25
					5,632 26

68 The defendant further introduced proof tending to show that, by reason of various circumstances leading to suspicion of Dressler's papers, by the direction of the assistant engineer-in-chief, some time in December, 1887, George T. Baker, who had previously been in charge of division 7 and who, about the 26th of November, had been put in charge of divisions 8 and 9, began and, during the months of January and February, at different times, continued the work of going over said divisions 8 and 9; that accurate measurements of said work were taken on the ground by him or under his supervision and were correct, both as to quantity and classification; that it was not a revision of Dressler's figures, but an entirely new and independent estimate; that the same included all the work performed by the plaintiffs after the first of November as well as before, and therefore must have covered the so-called extras for station grounds, side tracks, and bridge ends; that the said Baker returned the papers containing the said measurements and classifications to the home office, where *it was* checked over by the assistant chief engineer, and that from these papers the said Baker made up his so-called final estimate, as follows:

69 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock and Co., Topeka, Kans., Dr.

1888:

For final estimate for grading performed on sections 86 to 135, inclusive, under terms of contract of March 21st, 1887, viz:

Section No. 86:

To	1,637.0	cu. yds.	earth	emb'k't borrowed	@ 13c.	212 81	
"	9,051.0	"	"	" over 8 ft.	" 15c.	1,357 65	
"	650.0	"	"	excavation wasted	" 13c.	84 50	
"	27,617.0	"	"	" hauled	" 20c.	5,523 40	
"	158,671 0	"	"	hauled 100 feet	" 1c.	1,586 71	
"	0.5	acres	clearing		" 20.00	10 00	
"	0.2	"	grubbing		" 35.00	7 00	
							8,782 07

Section No. 87:

"	2,407.0	cu. yds.	earth	emb'k't borrowed	@ 13c.	312 91	
"	3,262.0	"	"	" over 8 ft.	" 15c.	489 30	
"	388.0	"	"	excavation wasted	" 13c.	50 44	
"	5,402.0	"	"	" hauled	" 20c.	1,080 40	
"	28,630,0	"	"	hauled 100 ft.	" 1c.	286 30	
"	2.8	acres	clearing		" 20.00	56 00	
"	1.3	"	grubbing		" 35.00	45 50	
							2,320 85

Section No. 88:

"	2,349.0	cu. yds.	earth	emb'k't borrowed	@ 13c.	305 37	
"	716.0	"	"	" over 8 ft.	" 15c.	107 40	
"	688.0	"	"	excavation wasted	" 13c.	89 44	
"	902.0	"	"	" wasted over 8 ft.	@ 15c.	135 30	
"	15,625.0	"	"	" hauled	@ 20c.	3,125 00	
"	146,045.0	"	"	hauled 100 feet	" 1c.	1,460 45	
"	2.6	acres	clearing		" 20.00	52 00	
"	1.1	"	grubbing		" 35.00	38 50	
							5,313 46
				Carried forward			16,416 38

70 *Final Estimate.*

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Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				16,416 38
	Section No. 89:				
To	6,338.0 cu. yds. earth embk. borrowed	@	13c.	823 94	
"	4,669.0 " " " borrowed over 8 ft.	@	15c.	700 35	
"	270.0 " " excavation wasted	@	13c.	35 10	
"	16,232.0 " " " hauled	"	20c.	3,246 40	
"	134,320.0 " " hauled 100 ft.	"	1c.	1,343 20	
"	3.3 acres clearing	"	20.00	66 00	
"	0.9 " grubbing	"	35.00	31 50	
					6,246 49
	Section No. 90:				
"	8,460.0 cu. yds. earth emb'k't borrowed	@	13c.	1,099 80	
"	6,770.0 " " " borrowed over 8 ft.	@	15c.	1,015 50	
"	74.0 " " excavation wasted	@	13c.	9 62	
"	3,219.0 " " " hauled	"	20c.	643 80	
"	10,027.0 " " hauled 100 ft.	"	1c.	100 27	
"	0.3 acres clearing	"	20.00	6 00	
"	0.2 " grubbing	"	35.00	7 00	
					2,881 99
	Section No. 91:				
"	7,778.0 cu. yds. earth embk. borrowed	@	13c.	1,011 14	
"	23,938.0 " " " over 8 ft.	"	15c.	3,590 70	
"	8,550.0 " " excv. hauled	"	20c.	1,710 00	
"	37,400.0 " " hauled 100 ft.	"	1c.	374 00	
"	0.7 acres clearing	"	20.00	14 00	
"	0.2 " grubbing	"	35.00	7 00	
					6,706 84
	Section No. 92:				
"	4,929.0 cu. yds. earth embk. borrowed	@	13c.	640 77	
"	64.0 " " excavation wasted	"	13c.	8 32	
"	0.3 acres clearing	"	20.00	6 00	
"	0.2 " grubbing	"	35.00	7 00	
					662 09
	Carried forward				32,913 79

71 *Final Estimate.*

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Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				32,913 79
	Section No. 93:				
To	7,921.0 cu. yds. earth embk. borrowed	@	13c.	1,029 73	
"	0.2 acres clearing	"	20.00	4 00	
"	0.1 " grubbing	"	35.00	3 50	
					1,037 23
	Section No. 94:				
"	3,926.0 cu. yds. earth embk. borrowed	@	13c.	510 38	
"	101,006 0 " " " over 8 ft.	"	15c.	15,150 90	
"	10,691.0 " " excavation hauled	"	20c.	2,138 20	
"	76,412.0 " " hauled 100 ft.	"	1c.	764 12	
"	3.3 acres clearing	"	20.00	66 00	
"	2.65 " grubbing	"	35.00	92 75	
					18,722 35
	Section No. 95:				
"	11,162.0 cu. yds. earth embk. borrowed	@	13c.	1,451 06	
"	37,630.0 " " " bor. over 8 ft.	"	15c.	5,644 50	
"	3,734.0 " " excv. hauled	"	20c.	746 80	
"	19,970.0 " " hauled 100 ft.	"	1c.	199 70	
"	3.5 acres clearing	"	20.00	70 00	
"	3.5 " grubbing	"	35.00	122 50	
					8,234 56
	Section No. 96:				
"	6,672.0 cu. yds. earth embk. borrowed	@	13c.	867 36	
"	760.0 " " " bor. over 8 ft.	"	15c.	114 00	
"	3,350.0 " " excav. hauled	"	20c.	670 00	
"	16,110.0. " " hauled 100 ft.	"	1c.	161 10	
"	0.58 acres clearing	"	20.00	11 60	
"	0.58 " grubbing	"	35.00	20 30	
					1,844 36
	Section No. 97:				
"	4,907.0 cu. yds. earth embk. borrowed	@	13c.	637 91	
"	160.0 " " excav. wasted	"	13c.	20 80	
"	100.0 " " hauled	"	20c.	20 00	
"	200.0 " " hauled 100 ft.	"	1c.	2 00	
"	1.8 acres clearing	"	20.00	36 00	
"	1.8 " grubbing	"	35.00	63 00	
					779 71
	Carried forward				63,532 00

72 *Final Estimate.*

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Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				63,532 00
	Section No. 98:				
To	4,260.0 cu. yds. earth embk. borrowed	@	13c.	553 80	
"	108,633.0 " " " bor. over 8 ft.	"	15c.	16,294 95	
"	11,942.0 " " excav. hauled	"	20c.	2,388 40	
"	79,826.0 " " hauled 100 ft.	"	1c.	798 26	
"	1.0 acres clearing	"	20.00	20 00	
"	1.0 " grubbing	"	35.00	35 00	
					20,090 41
	Section No. 99:				
"	6,113.0 cu. yds. earth embk. borrowed	@	13c.	794 69	
"	49,913.0 " " " bor. over 8 ft.	"	15c.	7,486 95	
"	1,181.0 " " excav. hauled	"	20c.	236 20	
"	13,512.0 " " hauled 100 ft.	"	1c.	135 12	
					8,652 96
	Section No. 100:				
"	6,284.0 cu. yds. earth embk. borrowed	@	13c.	816 92	816 92
	Section No. 101:				
"	12,172.9 cu. yds. earth embk. borrowed	@	13c.	1,582 48	
"	80.0 " " excavation wasted	"	13c.	10 40	
"	641.3 " " " hauled	"	20c.	128 26	
"	5,000.0 " " hauled 100'	"	1c.	50 00	
"	5.2 acres clearing	"	20.00	104 00	
"	5.2 " grubbing	"	35.00	182 00	
					2,057 14
	Section No. 102:				
"	7,861.5 cu. yds. earth embk. borrowed	@	13c.	1,022 00	
"	806.0 " " excavation wasted	"	13c.	104 78	
"	726.0 " " " hauled	"	20c.	145 20	
"	9,200.0 " " hauled 100 feet	"	1c.	92 00	
"	1.0 acres clearing	"	20.00	20 00	
"	1.0 " grubbing	"	35.60	35 00	
					1,418 98
	Carried forward				96,568 41

72 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward					96,568 41
	Section No. 103:					
To	1,863.0 cu. yds. earth embk. borrowed	@	13c.	242 19		
"	9,675.0 " " " bor. over 8′	"	15c.	1,451 25		
"	2,284.0 " " excavation wasted	"	13c.	296 92		
"	12,380.0 " " " hauled	"	20c.	2,476 00		
"	105,011.0 " " hauled 100 feet	"	1c.	1,050 11		
"	2.18 acres clearing	"	20.00	43 60		
"	1.62 " grubbing	"	35.00	56 70		
						5,616 77
	Section No. 104:					
"	3,915.0 cu. yds. earth embk. borrowed	@	13c.	508 95		
"	3,731.0 " " " bor. over 8′	"	15c.	559 65		
"	2,465.0 " " excavation wasted	"	13c.	320 45		
"	8,229.0 " " " hauled	"	20c.	1,645 80		
"	36,200.0 " " hauled 100 ft.	"	1c.	362 00		
"	1.8 acres clearing	"	20.00	36 00		
"	1.8 " grubbing	"	35.00	63 00		
						3,495 85
	Section No. 105:					
"	6,240.0 cu. yds. earth embk. borrowed	@	13c.	811 20		
"	325.0 " " excavation wasted	"	13c.	42 25		
"	3,969.0 " " hauled	"	20c.	793 80		
"	12,518.0 " " hauled 100 ft.	"	1c.	125 18		
"	1.4 acres clearing	"	20.00	28 00		
"	1.4 " grubbing	"	35.00	49 00		
						1,849 43
	Section No. 106:					
"	6,952.0 cu. yds. earth embk. borrowed	@	13c.	903 76		
"	2,001.0 " " excavation wasted	"	13c.	260 13		
"	5,502.0 " " " hauled	"	20c.	1,100 40		
"	33,500.0 " " hauled 100 ft.	"	1c.	335 00		
"	1.5 acres clearing	"	20.00	30 00		
"	1.5 " grubbing	"	35.00	52 50		
						2,681 79
	Carried forward					110,212 25

74 *Final Estimate.*

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Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

Bro't forward					110,212 25
Section No. 107:					
To	1,670.0 cu. yds. earth embk. borrowed	@	13c.	217 10	
"	1,837.0 " " " bor. over 8'	"	15c.	275 55	
"	4,635.0 " " excavation wasted	"	13c.	602 55	
"	22,101.0 " " " wasted over 8'	"	15c.	3,315 15	
"	3,890.0 " " " hauled	"	20c.	778 00	
"	43,880.0 " " hauled 100 ft.	"	1c.	438 80	
"	20.81 acres clearing	"	20.00	416 20	
"	8.0 " grubbing	"	35.00	280 00	
					6,323 35
Section No. 108:					
"	11,703.0 cu. yds. earth embk. borrowed	@	15c.	1,755 45	
"	3,352.0 " " excavation wasted	"	15c.	502 80	
"	52,297.0 " " " hauled	"	20c.	10,459 40	
"	290,017.0 " " hauled 100 feet	"	1c.	2,900 17	
"	8.97 acres clearing	"	20.00	179 40	
"	5.66 " grubbing	"	35.00	198 10	
					15,995 32
Section No. 109:					
"	8,844.8 cu. yds. earth embk. borrowed	@	15c.	1,326 72	
"	10,668.6 " " excavation wasted	"	15c.	1,600 29	
"	423.7 " " " hauled	"	20c.	84 74	
"	2,119.0 " " hauled 100 feet	"	1c.	21 19	
"	0.64 acres clearing	"	20.00	12 80	
"	0.64 " grubbing	"	35.00	22 40	
					3,068 14
Section No. 110:					
"	16,191.6 cu. yds. earth embk. borrowed	@	15c.	2,428 74	
"	9,965.4 " " excavation wasted	"	15c.	1,494 81	
"	25,247.2 " " " hauled	"	20c.	5,049 44	
"	135,147.0 " " hauled 100 ft.	"	1c.	1,351 47	
"	2.65 acres clearing	"	20.00	53 00	
"	.97 " grubbing	"	35.00	33 95	
					10,411 41
Carried forward					146,010 47

75 *Final Estimate.*

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Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				146,010 47
	Section No. 111:				
To	24,440.9 cu. yds. earth embk. borrowed	@	15c.	3,666 14	
"	55,187.3 " " excav. hauled	"	20c.	11,037 46	
"	361,399.0 " " hauled 100 ft.	"	1c.	3,613 99	
"	1.01 acres clearing	"	20.00	20 20	
					18,337 79
	Section No. 112:				
"	16,256.7 cu. yds. earth embk. borrowed	@	15c.	2,438 51	
"	939.0 " " excav. wasted	"	15c.	140 85	
"	36,333.7 " " " hauled	"	20c.	7,266 74	
"	213,174.0 " " hauled 100 feet	"	1c.	2,131 74	
"	1,500.0 " loose rock	"	45c.	675 00	
"	6.90 acres clearing	"	20.00	138 00	
"	2.42 " grubbing	"	35.00	84 70	
					12,875 54
	Section No. 113:				
"	6,524.0 cu. yds. earth embk. borrowed	@	15c.	978 60	
"	3,717.4 " " excav. wasted	"	15c.	557 61	
"	38,607.8 " " " hauled	"	20c.	7,721 56	
"	222,808.0 " " hauled 100 feet	"	1c.	2,228 08	
"	4.42 acres clearing	"	20.00	88 40	
"	1.38 " grubbing	"	35.00	48 30	
					11,622 55
	Section No. 114:				
"	2,660.0 cu. yds. earth embk. borrowed	@	15c.	399 00	
"	556.9 " " excav. wasted	"	15c.	83 54	
"	10,265.7 " " " hauled	"	20c.	2,053 14	
"	42,647.0 " " hauled 100 feet	"	1c.	426 47	
"	0.08 acres clearing	"	20.00	1 60	
"	0.08 " grubbing	"	35.00	2 80	
					2,966 55
	Carried forward				191,812 90

76 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:					
	Bro't forward				191,812 90
	Section No. 115:				
To	13,007.4 cu. yds. earth embk. borrowed	@	15c.	1,951 11	
"	9,493.2 " " excav. hauled	"	20c.	1,898 64	
"	44,633.0 " " hauled 100 ft.	"	1c.	446 33	
"	0.75 acres clearing	"	20.00	15 00	
"	0.49 " grubbing	"	35.00	17 15	
					4,328 23
	Section No. 116:				
"	8,768.6 cu. yds. earth embk. borrowed	@	15c.	1,315 29	
"	253.0 " " excav. wasted	"	15c.	37 95	
"	9,761.4 " " " hauled	"	20c.	1,952 28	
"	43,071.0 " " hauled 100 ft.	"	1c.	430 71	
"	0.15 acres clearing	"	20.00	3 00	
"	0.15 " grubbing	"	35.00	5 25	
					3,744 48
	Section No. 117:				
"	858.8 cu. yds. earth embk. borrowed	@	13c.	111 64	
"	11,228.6 " " " bor. over 8′	"	15c.	1,684 29	
"	9,980.8 " " excav. hauled	"	20c.	1,996 16	
"	34,970.0 " " hauled 100 ft.	"	1c.	349 70	
"	0.32 acres clearing	"	20.00	6 40	
"	0.32 " grubbing	"	35.00	11 20	
					4,159 39
	Section No. 118:				
"	166.6 cu. yds. earth embk. borrowed	@	13c.	21 66	
"	877.6 " " " bor. over 8′	"	15c.	131 64	
"	9,656 3 " " excav. wasted	"	15c.	1,255 32	
"	34,965.6 " " " " over 8′	"	15c.	5,244 84	
"	8,469.1 " " " hauled	"	20c.	1,693 82	
"	48,047 0 " " hauled 100′	"	1c.	480 47	
"	0.26 acres clearing	"	20.00	5 20	
"	0.26 " grubbing	"	35.00	9 10	
					8,842 05
	Carried forward				212,887 05

77 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188-.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

Bro't forward						212,887 05
Section No. 119:						
To	6,310.5 cu. yds.	earth embk. borrowed	@	13c.	820 37	
"	4,071.7 "	" " bor. over 8′	"	15c.	610 76	
"	998.6 "	" excav. wasted	"	13c.	129 82	
"	7,007.9 "	" " wasted over 8′	"	15c.	1,051 19	
"	8,320.7 "	" " hauled	"	20c.	1,664 14	
"	18,913.0 "	" hauled 100′	"	1c.	189 13	
"	2.44 acres	clearing	"	20.00	48 80	
"	1.12 "	grubbing	"	35.00	39 20	
						4,553 41
Section No. 120:						
"	6,674.4 cu. yds.	earth embk. borrowed	@	13c.	867 67	
"	20,482.9 "	" " bor. over 8′	"	15c.	3,072 44	
"	13,856.3 "	" excav. hauled	"	20c.	2,771 26	
"	44,907.0 "	" hauled 100 ft	"	1c.	449 07	
"	5.47 acres	clearing	"	20.00	109 40	
"	3.45 "	grubbing	"	35.00	120 75	
						7,390 59
Section No. 121:						
"	9,271.1 cu. yds.	earth embk. borrowed	@	13c.	1,205 24	
"	14,688.7 "	" " bor. over 8′	"	15c.	2,203 31	
"	1,447.7 "	" excav. wasted	"	13c.	188 20	
"	3,046.3 "	" " hauled	"	20c.	609 26	
"	14,873.0 "	" hauled 100 ft.	"	1c.	148 73	
"	4.89 acres	clearing	"	20.00	97 80	
"	2.75 "	grubbing	"	35.00	96 25	
						4,548 79
Section No. 122:						
"	5,350.5 cu. yds.	earth embk. borrowed	@	13c.	695 56	
"	93,013.1 "	" " bor. over 8′	"	15c.	13,951 96	
"	1,189.0 "	" excav. wasted	"	13c.	154 57	
"	6,361.5 "	" " hauled	"	20c.	1,272 30	
"	50,513.0 "	" hauled 100 ft.	"	1c.	505 13	
"	0.69 acres	clearing	"	20.00	13 80	
"	0.57 "	grubbing	"	35.00	19 95	
						16,613 27
Carried forward						245,993 11

78 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				245,993 11
	Section No. 123:				
To	10,619.6 cu. yds. earth embk. borrowed	@	13c.	1,380 55	
"	2,228.1 " " " excav. wasted	"	13c.	289 65	
"	13,433.0 " " " hauled	"	20c.	2,686 60	
"	126,270.0 " " " hauled 100 ft.	"	1c.	1,262 70	
"	4.37 acres clearing	"	20.00	87 40	
"	0.54 " grubbing	"	35.00	18 90	
					5,725 80
	Section No. 124:				
"	13,305.0 cu. yds. earth embk. borrowed	@	13c.	1,729 65	
"	0.46 acres clearing	"	20.00	9 20	
					1,738 85
	Section No. 125:				
"	14,398.2 cu. yds. earth embk. borrowed	@	13c.	1,871 76	
"	0.46 acres clearing	"	20.00	9 20	
					1,880 96
	Section No. 126:				
"	6,776.5 cu. yds. earth embk. borrowed	@	13c.	880 95	
"	295.6 " " " excav. wasted	"	13c.	38 43	
"	16,495.5 " " " hauled	"	20c.	3,299 10	
"	163,709.0 " " " hauled 100 ft.	"	1c.	1,637 09	
"	3.76 acres clearing	"	20.00	74 00	
"	0.62 " grubbing	"	35.00	21 70	
	Extra work for building roadway into slough:				
"	24 days' labor @ 1.50			36 00	
"	2 " foreman " 2.50			5 00	
Add	10 %			4 10	
				45 10	
					5,996 37
	Carried forward				261,335 09

79 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:

	Bro't forward				261,335 09
	Section No. 127:				
To	8,932.6 cu. yds. earth embk. borrowed	@	13c.	1,161 24	
"	1,533.7 " " " bor. over 8'	"	15c.	230 05	
"	176.1 " " excav. wasted	"	13c.	22 90	
"	4,521.4 " " " hauled	"	20c.	904 28	
"	37,501.0 " " hauled 100 ft.	"	1c.	375 01	
"	1.20 acres clearing	"	20.00	24 00	
					2,717 48
	Section No. 128:				
"	1,318.1 cu. yds. earth embk. borrowed	@	13c.	171 35	
"	2,103.4 " " excav. wasted	"	13c.	273 44	
"	6,330.3 " " " hauled	"	20c.	1,266 06	
"	40,696.0 " " hauled 100 ft.	"	1c.	406 96	
"	2.47 acres clearing	"	20.00	49 40	
"	0.59 " grubbing	"	35.00	20 65	
					2,187 86
	Section 129:				
"	8,696.3 cu. yds. earth embk. borrowed	@	15c.	1,304 45	
"	837.3 " " excav. wasted	"	15c.	125 60	
"	7,549.7 " " " hauled	"	20c.	1,509 94	
"	72,000.0 " " hauled 100 ft	"	1c.	720 00	
"	1.54 acres clearing	"	20.00	30 80	
"	1.41 " grubbing	"	35.00	49 35	
					3,740 14
	Section No. 130:				
"	11,789.4 cu. yds. earth embk. borrowed	@	15c.	1,768 41	
"	1,943.0 " " excav. hauled	"	20c.	388 60	
"	9,053.0 " " hauled 100 ft.	"	1c.	90 53	
"	2.30 acres clearing	"	20.00	46 00	
"	0.82 " grubbing	"	35.00	28 70	
					2,322 24
	Carried forward				272,302 81

80 *Final Estimate.*

Copy.

Auditor's No., —.

Recorded in ——, 188–.

Chicago, Santa Fé & California Railway Company to Price, McGavock & Co., Dr.

Continued.

1888:					
	Bro't forward				272,302 81
	Section No. 131:				
To	12,291.1 cu. yds. earth embk. borrowed	@	15c.	1,843 67	
"	1,218.0 " " excav. hauled	"	20c.	243 60	
"	6,224.0 " " hauled 100 ft.	"	1c.	62 24	
"	1.22 acres clearing	"	20.00	24 40	
"	2.29 " grubbing	"	35.00	80 15	
					2,254 06
	Section No. 132:				
"	19,348 3 cu. yds. earth embk. borrowed	@	15c.	2,902 25	
"	5,577.9 " " excav. hauled	"	20c.	1,115 58	
"	54,649.0 " " hauled 100 ft.	"	1c.	546 49	
"	1.61 acres clearing	"	20.00	32 20	
"	0.23 " grubbing	"	35.00	8 05	
					4,604 57
	Section No. 133:				
"	14,978.0 cu. yds. earth embk. borrowed	@	15c.	2,246 70	
"	1,330.0 " " excav. hauled	"	20c.	266 00	
"	6,650.0 " " hauled 100 ft.	"	1c.	66 50	
					2,579 20
	Section No. 134:				
"	20,048.6 cu. yds. earth embk. borrowed	@	15c.	3,007 29	3,007 29
	Section No. 135:				
"	7,180.0 cu. yds. earth embk. borrowed	@	15c.	1,077 00	
"	50,286.0 " " excav. hauled	"	25	12,571 50	
"	274,232.0 " " hauled 100 ft.	"	1c.	2,742 32	
"	14.5 acres clearing	"	20.00	290 00	
"	8.4 " grubbing	"	35.00	294 00	
					16,974 82
	Roadway:				
"	19,052.1 cu. yds. earth excav. hauled	@	25c.	4,763 03	
"	88,387.0 " " hauled 100 ft.	"	1c.	883 87	
"	1.0 acre clearing	"	20.00	20 00	
"	0.6 " grubbing	"	35.00	21 00	
					5,687 90
					307,410 65
	Less previous payments				299,851 90
					7,558 75

Examined by—

Correct.

—— ——.

A. C. A. ROBINSON,
Ch'f Engineer.

Correct.

C. H.

Approved.

——— ———,
Assistant Engineer.

Approved.

——— ———, *Auditor.*

Approved.

G. W. VAUGHN,
Assistant Chief Engineer.

Charge to acc't.—See back.

No.	Amount.
3	7,558 75
	$7,558 75

Received. —— —, 188-, seven thousand five hundred and fifty-eight and $\frac{75}{100}$ dollars, in full payment of above account.

—— ——.

NOTE.—The above receipt must be dated and signed by the party in whose favor this voucher is made; or, when signed by another party, the authority for so doing must in all cases accompany it, and when signed "his mark," signature must be witnessed. When receipted for a railroad company or other corporation or organization the party signing will please designate his official title and name of corporation or organization One party signing for another must give his own name in full.

[Endorsed:] Treasurer's No., E. (Copy.) Company's final estimate

81 Which said estimate was approved by the assistant chief engineer and was sent, in March, 1888, to the engineer-in-chief and by him approved and for the first time communicated to the plaintiffs; that the balance shown by said last-mentioned estimate the defendant was and is ready and willing to pay; that some of the original notes of measurements made by said Baker in the field were by him destroyed after the results of such measurements had been noted in books or other permanent form.

On cross-examination plaintiffs' attorney called upon said Baker to produce said papers, but the same were not produced; that in making this classification of said work Baker followed the terms of the contract; that in classifying the work, such as excavation hauled into embankment or embankment borrowed or excavation wasted, he followed the course indicated by his judgment and experience as the most economical method of doing said work in the light of the contract as he understood it, allowance being made for reasonable departures therefrom; that said Baker had been well acquainted with the ground for a time before construction of said embankment began, and that he was able to make proper allowance for the effect of the conformation of the ground upon the method of construction; that he could not tell in what manner the work was actually done

or that it was actually done in accordance with his meas-
82 urements and classifications, and that any departure from the methods adopted by him would not have been good engineering. On cross-examination said Baker testified that he was an experienced and competent engineer, and that, in his judgment, the estimates made by competent and honest engineers in charge of the divisions as they progressed, especially after the work was substantially completed, ought not to differ more than from three to five per cent. on any portion thereof from the perfected estimate of said work.

Defendant introduced evidence tending to prove that the monthly estimates made by engineers in the field are necessarily mere approximations and are always so regarded among engineers and contractors.

In rebuttal the plaintiffs introduced evidence tending to prove that the said so-called final estimate of Dressler was made in the home office and after his recall from the field; that its difference in results from the certificate of Nov. 1st is due to change of classification only; that such change of classification was made under the instructions of Mr. Beard, an assistant in the home office; that the said changes of classification did not express the judgment of Dressler of what was right or proper under the circumstances, and that in every particular in which said so-called final estimate differed from the certificate of Nov. 1st Dressler believed the certificate
83 is right and the so-called final estimate wrong.

The plaintiffs further introduce evidence tending to show that in such instances as the work actually done differed in manner from the way in which the work should have been done, as indicated by Baker, the actual method of doing the work was due to the directions given to the sub-contractors by Dressler at the time; that, while not the most economical, it was the quickest way of doing the work, and that in some instances Dressler received the directions which he gave to these sub-contractors from the assistant engineer-in-chief, Mr. Vaughn; that the classification pointed out by Baker as the basis of his estimate was not, in fact, the way in which the work was done, and that the so-called estimate of the said Baker was made without notice having been given the contractor or sub-contractor that he was about to take said measurements or make said estimate, and was made without their knowledge or the knowledge of their sub-contractors, and was made after the work was completed, and that during some of the time while Baker was making it the borrow pits were filled with water or snow.

The defendant introduced evidence tending to show that no instructions had been given by Vaughn to Dressler, as above described, and that no instructions had been given by Beard to Dressler, as above described; that the difference in the aggregate between Dressler's so-called final estimate and his paper of November
84 1st arises to a very large extent, not only from changes of classification, but also from differences in respect to quantities of excavation and embankment, which differences could not have existed if the two estimates had been made up from the same

data, and that the differences could not be explained by differences of classification alone; which was all the evidence offered by either party in said cause.

And, forasmuch as the matters aforesaid do not appear of record in said cause, the defendant tenders this its bill of exceptions, and prays that the same may be signed and sealed and made a part of the record herein, which is done accordingly this 6th April, A. D. 1889.

H. W. BLODGETT, *Judge.* [SEAL.]

(Endorsed:) Filed April 6, 1889. Wm. H. Bradley, clerk.

85 Afterward, to wit, on the twenty-fourth day of April, 1889, there was filed in said clerk's office a bond in said entitled cause; which said bond is in the words and figures following, to wit:

Bond.

Know all men by these presents that we, Chicago, Santa Fé and California Railway Company and William J. Watson and Sidney A. Kent, are held and firmly bound unto John R. Price, W. J. McGavock, and Rees R. Price, copartners under the name of Price, McGavock and Company, in the full and just sum of sixty thousand dollars ($60,000), to be paid to the said John R. Price, W. J. McGavock, and Rees R. Price, their certain attorney, executors, administrators, or assigns; to which payment, well and truly to be made, we bind ourselves, our successors, heirs, executors, and administrators, jointly and severally, by these presents.

Sealed with our seals and dated this fifteenth day of April, in the year of our Lord one thousand eight hundred and eighty-nine.

Whereas lately, at a term of the circuit court of the United States within and for the northern district of Illinois, in a suit depending in said court between John R. Price, W. J. McGavock, and Rees R. Price, copartners as aforesaid (who sued for the use of Jones, Forrest and Bodkin), plaintiffs, and Chicago, Santa Fé and California Railway Company, defendant, a judgment was rendered against
86 the said defendant for the sum of twenty-eight thousand nine hundred and thirty-eight dollars and sixteen cents ($28,938.16), and the said defendant having obtained a writ of error and filed a copy thereof in the clerk's office of the said court to reverse the judgment in the aforesaid suit, and a citation directed to the said plaintiffs, citing and admonishing them to be and appear at a Supreme Court of the United States to be holden at Washington the second Monday of October next:

Now, the condition of the above obligation is such that if the said Chicago, Santa Fé and California Railway Company shall prosecute its said writ of error to effect and answer all damages and costs if it

fail to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY,
By NORMAN WILLIAMS, *Attorney-in-Fact.*
WILLIAM J. WATSON. [SEAL.]
SIDNEY A. KENT. [SEAL.]

UNITED STATES OF AMERICA, *Northern District of Illinois,* } ss:

In the Circuit Court of said District.

PRICE, MCGAVOCK AND COMPANY, Use, &c.,
vs.
CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY.

87 William J. Watson, being duly sworn, on oath says that he is a resident of said district, and that he is worth, over and above all liability and indebtedness, more than the sum of one hundred thousand dollars ($100,000.00) in real estate situated within said district, besides other property.

WILLIAM J. WATSON.

Subscribed and sworn before me this 19th day of April, A. D. 1889.

[SEAL.] CHARLES S. HOLT,
Notary Public.

UNITED STATES OF AMERICA, *Northern District of Illinois,* } ss:

In the Circuit Court of said District.

PRICE, MCGAVOCK AND COMPANY, Use, &c.,
vs.
CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY.

Sidney A. Kent, being duly sworn, on oath says that he is a resident of said district, and that he is worth, over and above all liability and indebtedness, more than the sum of one hundred thousand dollars ($100,000.00) in real estate situated within said district, besides other property.

SIDNEY A. KENT.

Subscribed and sworn before me this 19th day of April, A. D. 1889.

[SEAL.] FRANK W. SMITH,
Notary Public.

88 Approved by—
H. W. BLODGETT, *Judge.*

(Endorsed:) Filed April 24, 1889. Wm. H. Bradley, clerk.

89 NORTHERN DISTRICT OF ILLINOIS, *ss:*

I, William H. Bradley, clerk of the circuit court of the United States for said northern district of Illinois, do hereby certify the above and foregoing to be a true and correct transcript of the record of all the proceedings had in said court in the cause wherein John R. Price, W. J. McGavock, and Rees R. Price, a firm doing business under the name of Price, McGavock and Company, for the use of Francis A. Jones, William M. Forrest, and Andrew Bodkin, doing business under the firm name of Jones, Forest and Bodkin, are plaintiffs and The Chicago Santa Fé and California Railroad Company is defendant, as the same appears from the records and files of said court now remaining in my custody and control.

Seal of Circuit Court U. S., Northern Dist. Illinois, 1855.

In testimony whereof I have hereunto set my hand and affixed the seal of said court, at my office, in Chicago, in said district, northern division, this twenty-ninth day of April, 1890.

WM. H. BRADLEY, *Clerk.*

90 UNITED STATES OF AMERICA, *Northern District of Illinois,* } *ss:*

The United States of America to the judges of the circuit court of the United States for the northern district of Illinois, Greeting:

Because in the record and proceedings, as also in the rendition of a judgment in a plea which is before you, in said circuit court, between John R. Price *et al.*, for use of Jones, Forrest and Bodkin, plaintiffs, and Chicago, Santa Fé and California Railroad Company, defendant, in an action of assumpsit, a manifest error hath happened, to the great damage of the said Chicago, Santa Fé and California Railroad Company, as by its complaint appears, and it being fit that the error, if any there has been, should be duly corrected and full and speedy justice done to the parties aforesaid in this behalf, you are hereby commanded, if judgment be given therein, that then, under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same at Washington on the second Monday of October, A. D. 1889, in the Supreme Court to be then and there held, that, the record and proceedings aforesaid being inspected, the said Supreme Court may cause further to be done therein to correct that error what of right and according to the law and custom of the United States should be done.

Seal of Circuit Court U. S., Northern Dist. Illinois, 1855.

Witness the Hon. Melville W. Fuller, Chief Justice of the Supreme Court of the United States, this nineteenth day of April, in the year of our Lord one thousand eight hundred and

eighty-nine, and of the Independence of the United States the 113th year.

WM. H. BRADLEY,
Clerk of the Circuit Court of the United States for the Northern District of Illinois.

90½ [Endorsed:] Supreme Court of the United States. Chicago, Santa Fé and California Railroad Company, plaintiff in error, *vs.* John R. Price, for use of Jones, Forrest and Bodkin, defendants in error. Writ of error. Copy deposited for the defendant in error in the clerk's office U. S., northern district of Illinois.

91 UNITED STATES OF AMERICA, } *ss:*
Northern District of Illinois, }

To John R. Price *et al.*, for use of Jones, Forrest and Bodkin, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at Washington on the second Monday of October, A. D. 1890, pursuant to a writ of error filed in the clerk's office of the circuit court of the United States for the northern district of Illinois, wherein John R. Price *et al.*, for use of Jones, Forrest and Bodkin, — plaintiffs and Chicago, Santa Fé and California Railroad Company, defendant, to show cause, if any there be, why the error mentioned should not be corrected and speedy justice should not be done to the parties in that behalf.

Witness the Hon. Henry W. Blodgett, judge, this nineteenth day of April, in the year of our Lord one thousand eight hundred and ninety.

H. W. BLODGETT, *Judge.*

I hereby acknowledge due service of the foregoing citation this first day of July, A. D. 1890.

P. S. GROSSCUP,
Attorney for Defendants in Error.

92 [Endorsed:] Supreme Court of the United States. John R. Price *et al. vs.* Chicago, Santa Fé and California Railroad Co. Citation to October term, A. D. 1890.

93 CHICAGO, SANTA FÉ AND CALIFORNIA RAILWAY COMPANY, Plaintiff in Error,
vs.
JOHN R. PRICE *et al.*, for Use, &c., Defendants in Error. } In Error.

Of October term, A. D. 1890.

Now, at said term, comes the said plaintiff in error, by Norman Williams, its attorney, and says that in the record and proceedings aforesaid there is manifest error, in this, to wit, that the declaration

aforesaid and the matters therein contained are not sufficient in law for the said defendants in error to have or maintain their aforesaid action against the said plaintiff in error; there is also error, in this, to wit, that the court admitted improper evidence offered by the defendant in error and objected to by the plaintiff in error, and rejected proper evidence offered by the plaintiff in error; and also, in this, that the finding and judgment of the court were given for the defendants in error and against the plaintiff in error, whereas by the law of the land said finding and judgment ought to have been given for the plaintiff in error and against the defendants in error; and the said plaintiff in error prays the judgment
94 aforesaid may be reversed, annulled, and held for nothing, and that it may be restored to all things which it hath lost by reason of said judgment, &c.

NORMAN WILLIAMS,
Attorney for Plaintiff in Error.

Endorsed on cover: N. Illinois C. C. U. S. No. 1456. The Chicago, Santa Fé & California Railroad Company, plaintiff in error, *vs.* John R. Price *et al.*, for use of Jones, Forrest & Bodkin. Filed October 17, 1890.

Office Supreme Court U. S.
FILED.
DEC 15 1890
JAMES H. McKENNEY,
CLERK.

IN THE

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, A. D. 1890.

CHICAGO, SANTA FE & CALIFORNIA RAILWAY COMPANY,
Plaintiff in Error,
vs.
REES R. PRICE ET AL., FOR USE, ETC.,
Defendants in Error.

Error to the Circuit Court of the United States for the Northern District of Illinois.

BRIEF AND ARGUMENT FOR PLAINTIFF IN ERROR.

NORMAN WILLIAMS,
CHARLES S. HOLT,
OF COUNSEL.

IN THE

Supreme Court of the United States,

OCTOBER TERM, A. D. 1890.

CHICAGO, SANTA FE & CALIFORNIA RAILWAY COMPANY,
Plaintiff in Error,
vs.
REES R. PRICE ET AL., FOR USE, ETC.,
Defendants in Error.

Error to the Circuit Court of the United States for the Northern District of Illinois.

STATEMENT OF FACTS.

The facts in this case are shortly stated in the opinion of Judge Blodgett, which is found in the printed record, at page 10. It seems proper for us to go over them somewhat more fully here.

In March, 1887, the Railway Company, plaintiff in error, was constructing its line in the State of Illinois, and on the 21st of that month entered into an agreement with the nominal plaintiffs in this action, who constitute the firm of Price, McGavock & Co. The contract is fully set forth in the printed record, pages 20 to 30. It provided for the

performance by the plaintiffs of the grubbing, clearing, grading and masonry, and all other things necessary to complete the road-bed on the first fifty miles of the railway company's line eastward from the east bank of the Mississippi river, in accordance with certain conditions expressed in the contract and certain specifications annexed thereto. We quote all those portions of the contract and specifications which seem to us to bear upon the questions now in issue.

"The work shall be executed under the direction and supervision of the chief engineer of said railway company and his assistants, by whose measurements and calculations the quantities and amounts of the several kinds of work performed under this contract shall be determined and whose determination shall be conclusive upon the parties, and who shall have full power to reject or condemn all work or materials which in his or their opinion do not fully conform to the spirit of this agreement; and said chief engineer shall decide every question which can or may arise between the parties relative to the execution thereof, and his decision shall be binding and final upon both parties; and whereas the classification of excavation provided for in the annexed specifications is of a character that makes it necessary that special attention should be called to it, it is expressiy agreed by the parties to this contract that the determination, by the measurements and calculations of the said engineer, of the respective quantities of such excavation shall be final and conclusive.

* * * * *

The aforesaid party of the second part hereby agrees that whenever this contract shall be completely performed on the part of the said party of the first part, and the engineer has certified the same in writing, the said party of the second part shall, within ten days thereafter, pay to said party of the first part, any remaining sums due for said work, according to this contract.

* * * * *

Excavation may be wasted and embankment borrowed excepting in cases where the engineer in charge of the

work shall direct that excavation shall be hauled into embankment; but when earth is hauled from excavation into embankment it shall be estimated and measured in the excavation only. In all cases the work will be estimated so as to make the least cost—that is, earth from excavation will be estimated as having been hauled to such a point as that the price for earth excavation hauled plus the price for haul of earth shall be equal the price of excavation wasted plus the price for embankment borrowed, and the estimate shall be thus made regardless of the fact that the contractors may have preferred to waste and borrow within the haul limit.

* * * * *

It is further agreed between the parties that monthly payments shall be made by the party of the second part, on the certificate of the engineer, for work done, deducting ten (10) per cent. from the value of work done, as agreed compensation for damages, to be forever retained by the party of the second part in the case the whole amount of work herein named shall not be done in accordance with this agreement.

* * * * *

It is expressly agreed by the party of the first part that the party of the second part may at any time pay so much of the money due the party of the first on the running or final estimates above mentioned to the laborers employed by the party of the first part as may be due said laborers and charge the same to the party of the first part."

On March 26, 1887, five days after the execution of the original contract, Price, McGavock & Co. made a contract with Jones, Forrest & Bodkin, for whose use this suit is brought. For convenience the latter firm will be hereafter spoken of simply as Jones, and the original contractors will be designated by the name of Price. The contract between Price and Jones is identical in language with that between the Railway Company and Price, except that the compensation clause, instead of specifying the rates of payment in accordance with the character of the work, obligates Price to pay Jones ninety per cent. of

the sums which may be paid by the Railway Company to Price, except for extra work, the proceeds of which are to be paid to Jones in full.

The original contract contained a prohibition upon assignment or sub-contracting without the written consent of the Railway Company. It was stipulated on the trial, however, that if it should appear by evidence in the case that Price had assigned the whole or any portion of the contract to Jones, the Railway Company would make no objection to such assignment on account of any prohibition thereof contained in the contract. This stipulation is inaccurately quoted in the opinion of the Circuit court.

It further appeared that the work called for by the contract was performed by Jones to some extent in person, but principally by sub-contractors, and it was admitted that it had been accepted and used by the Railway company.

For its own convenience, the railway company divided the fifty miles in question into four divisions, known as 7, 8, 9 and 10, and the work on each of these divisions was performed under the special supervision of a so-called division engineer, who was employed by the railway company and was an assistant of the chief engineer. As the work progressed the respective division engineers, on the first day of each month, made up and sent to the head office of the company at Chicago a paper headed "Monthly Estimate," a specimen of which appears in the printed record, at pages 33 to 36. These papers showed, as the trial court has found, the estimate of the division engineer of the amount of work done upon his division during the month. These monthly estimates furnished by the division engineers were approved by the assistant chief engineer at Chicago, and

by the chief engineer, whose headquarters were at Topeka, Kansas. Upon such approval, tissue copies of said estimates were delivered by the railway company to Price, and payment made according to the showing of the estimates, reserving ten per cent. in accordance with the contract. It was the custom of Price, upon receiving these payments, to forward his tissue copy of the monthly estimates to Jones, with a check for ninety per cent. of the amount so received from the railway company. It appeared, over defendant's objection, that Jones, from time to time, on receipt of payments from Price, paid his sub-contractors on the basis of the monthly estimates; and that in some instances, both Jones and his sub-contractors consulted the division engineer in connection with these payments, and compared the figures shown on the tissue copies of the monthly estimates sent from Topeka with those in the possession of the division engineer. It should be noted that in making payments the entire distance of fifty miles was treated as a whole and payments were made in a lump sum.

Under this arrangement everything went smoothly except upon Division 9, which was about twelve miles in length, and was in charge of one Dresler, as division engineer. He, like the other division engineers, sent in his monthly estimates, beginning in May and extending to November 1st. His monthly estimate of November 1st, known as the 7th Monthly Estimate, appears in full in the record. Two or three weeks afterward, the railway company having reason to suspect that Dresler's figures were erroneous, recalled him from the field and placed his division in charge of another engineer named Baker. Upon returning to Chicago, Dresler, by direction of the assistant chief engineer, made up from his field-notes

the so-called "Dresler Corrected Estimate," which was completed in December and is summarized on pages 40 to 42 of the printed record. The evidence is conflicting as to the circumstances under which this estimate was made up. It is conceded that it differed enormously from the results shown by the 7th monthly. It was never approved by the assistant or chief engineer. The court regarded this question as immaterial in the view he took of the case, and made no finding of fact in reference to it. Baker, who took charge of the division on November 27th, sent in his monthly estimate on December 1st, adopting Dresler's figures of November 1st, (for want of time to make new measurements) and adding something for the work done during November. This substantially completed the work except a small amount of grading and some work on station grounds, etc. Thereupon, Baker proceeded to carefully examine, re-measure and classify the entire work in pursuance of the clauses in the contract which make the judgment of the chief engineer and his assistants conclusive on the subject of measurements and classifications, and which require a certificate of the chief engineer before final settlement.

The results of this examination by Baker are shown in the Final Estimate which appears on pages 43 to 55 of the printed record. This estimate was completed in March, 1888, and approved by the assistant chief engineer and the chief engineer. As compared with Dresler's estimates, the final increased some of the amounts, but reduced others, so that the net result was a large decrease from Dresler's figures. It showed a balance due to Price, under the contract, of $7,558.75, which amount the railway company has always been ready to pay.

So far as appears, Price made no objection to this esti-

mate, but communicated the figures to Jones, who did object, insisting that he had overpaid his sub-contractors on the faith of the correctness of the monthly estimates; that the sub-contractors were irresponsible and insolvent, so that he could not get back from them the amounts thus overpaid, and asserting his right to recover those amounts from the company, by a suit in the name of Price. This is the theory of the declaration. The first count alleges simply the making and performance of the contract, and the refusal of the company to pay the balance due; but in the second count the overpayment theory is set forth explicitly and in detail, charging the reliance of Jones on the monthly estimates, the payments to insolvent sub-contractors, and the consequent damage, not to the nominal plaintiffs, but to Jones, the usee.

In his opinion Judge Blodgett affirmed this proposition, but in rendering judgment he departed wholly from the overpayment theory and apparently ignored altogether the payments to the sub-contractors, and found that Jones, suing in the name of Price, was entitled to recover the full amount shown by the final estimate to be due upon Divisions 7, 8 and 10, and was also entitled to recover for the work on Division 9, *on the assumption of the absolute correctness of Dresler's 7th monthly.* Accordingly, judgment was rendered for $28,938.16, made up of $17,351.68 on the divisions other than 9, and $11,586.48 on Division 9, which latter amount includes at least two sums not paid by Jones to his sub-contractors, viz.: one item of $500 and one of $880.

As will be seen by the finding of facts and the conclusions of law therein recited, and more fully by his opinion, the court refused to consider the question of the correctness or incorrectness of Baker's final estimate, and

of Dresler's 7th Monthly. Indeed the latter was substantially conceded by every one to have been grossly incorrect. The court was of opinion that the transactions occurring between Jones and his sub-contractors operated as an estoppel against the railway company, forbidding it to deny the correctness of Dresler's monthly estimates.

Assignment of Errors.

On this state of facts, the following errors are assigned:

1. The court erred in finding that the plaintiffs were entitled to recover any sums whatever except upon and in accordance with the certificate of the Chief Engineer of the Railway Company.

2. The court erred in admitting evidence of transactions between Jones and his sub-contractors, to which the Railway Company was not a party, for the purpose of affecting the mutual rights and liabilities of the Railway Company and Price.

3. The court erred in finding that the plaintiffs were entitled to recover for work done on Division 9, upon the assumption of the correctness of Dresler's 7th Monthly Estimate.

4. The court erred in rendering judgment for the whole amount due on Division 9, on the basis of Dresler's seventh monthly estimate, irrespective of whether Jones had paid the same to his subcontractors or not.

5. The court erred in finding that the railway company was estopped from disputing the correctness of Dresler's monthly estimates.

6. The court erred in not finding that even if the railway company was estopped from making great and unusual changes in the amounts shown to be due by the monthly estimates, still it was entitled to revise such estimates and reduce the amounts shown to be due at least to the extent which the evidence shows to have been consistent with competent and careful engineering, to wit: five per cent.

BRIEF.

I.

THE FINAL ESTIMATE OF THE CHIEF ENGINEER AND HIS ASSISTANTS, IF PROPERLY MADE, IS THE MEASURE OF THE PLAINTIFF'S RIGHTS, AND IS CONCLUSIVE.

1 Redf. Railways (6 Ed.), 435.
1 Rorer on Railroads, 462.
Herrick v. *Belknap & Ry. Co.*, 27 Vt., 673.
R. R. Co. v. *March*, 114 U. S., 549, and cases cited.
Snell v. *Brown*, 71 Ill., 133.
Navigation Co. v. *Fenlon*, 4 Watts & S., 210.
Sweet v. *Morrison*, 116 N. Y., 19.

The court having refused to consider the final estimate, not because it was incorrect, but on the ground that the company had no right to make any final estimate at all, the judgment should be reversed.

II.

THE RECOVERY, IF ANY, MUST BE SOLELY UPON THE CONTRACT RIGHTS OF PRICE, THE LEGAL PLAINTIFF.

1 Waite, Act. & Def., 364; *Id.*, 366, and cases cited.
Hamilton v. *Brown*, 18 Pa. St., 87.
Saltmarsh v. *Bowen*, 22 Ala., 221, 231.
Ferguson v. *Milliken*, 42 Mich., 441.
Sanders v. *Dist. Col.*, 20 Ct. Claims, 337.

III.

THERE IS NO ESTOPPEL.

A. As between Price and the company there are no circumstances which can work an estoppel.

(Authorities cited under I.)

B. The relations between Jones and his sub-contractors cannot enlarge the contract rights of Price against the company.

ARGUMENT.

The court having refused to consider the question of the correctness of the final estimate, it becomes unprofitable and unnecessary to discuss the circumstances under which it was made up. It sufficiently appears that the chief engineer did proceed under the provisions of the contract to make up a final estimate showing the amount due. The action of the court amounted to the exclusion of all evidence relating thereto, upon the express ground, as stated both in the opinion and in the finding of facts, not that the final estimate was improperly made, or was incorrect, but that the defendant had no right to re measure and reclassify the work at all, so as to "materially reduce" the amount of money coming to the contractors. If such exclusion would have been error in a jury trial, then the finding of the court is error on the present record.

The questions for argument, therefore, are whether the railway company was entitled to settle on the basis of the final estimate, and if not, what are the limits of the estoppel, and who may take advantage of it?

I.

THE FINAL ESTIMATE OF THE CHIEF ENGINEER AND HIS ASSISTANTS, IF PROPERLY MADE, IS THE MEASURE OF THE PLAINTIFF'S RIGHTS, AND IS CONCLUSIVE.

As we have pointed out, the trial judge declined to pass upon the correctness or incorrectness of the final estimate, holding that under the circumstances of the case,

the company was bound by the monthly estimates, even if erroneous. We think it will be clear on examination of the law and the contract that the final estimate cannot be so easily disposed of. It is held in a multitude of cases that under a provision of this kind the power of the engineer is absolute and unqualified; that this final estimate and certificate are in the nature of an award by a tribunal selected by the parties, and can only be impeached for fraud or such gross mistake as will amount to constructive bad faith. Most of the courts hold that such an award can be attacked only in equity. We cite a few of the cases, in some of which the language of the contract is verbally identical with that in the present case, and in all of which the legal effect of the contract is substantially the same.

"Where the contract contains provisions referring the estimate of the quantity and quality of the work done absolutely to the determination of the company's engineer, or any particular party, and provides, as is no uncommon thing in this country, that his decision shall be final, no relief from his determination can ordinarily be obtained, even in a court of equity, unless upon the ground of partiality or obvious mistake, which latter is held to apply rather to the quantity than the quality of the work, this being purely matter of judgment and discretion, and which was intended to be concluded by the opinion of the arbitrator."

1 Redf. Railways, (6 Ed.), 435.

It was doubtless in view of a possible distinction between quantity and quality that the parties to this contract inserted the clauses specially calling attention to *quantity and classification*, and expressly including them both among the things to be conclusively determined by the chief engineer.

"The full and fair decision of the engineer, timely

made, as to the quantity and value of the work, and the amount payable for the same under such contract, is not only binding, except it involve a mistake of calculation, as is the award of an ordinary arbitration, but is exempt from re-examination for slight or factitious grounds. In short, except for fraud or mistake in matter of computation, it is final. This principle is based, not only upon the fact that such engineer is the chosen arbiter of the parties, and whose decision is to be final, but also upon the ground of his superior capacity of judgment between them, and the necessity in such extensive works of closing up the accounts at short intervals beyond the necessity of subsequent inquiry, so that the respective parties may know the true state of their pecuniary matters. But notwithstanding the finality of such a contract, and the policy of the law to favor short accountings, final in their nature between the company and the contractors, based upon the estimates and decisions of the engineer, yet, as a mere matter of proof, the decision of the engineer, employed and paid as he is by one only of said parties, will be subject to great scrutiny on account of his liability under the circumstances to be influenced by the peculiarity of his position. This however, will not justify the setting aside of his decision, except upon the most unanswerable grounds, and then only in a court of equity."

Rorer on Railroads, 462.

In a well-considered case the Supreme court of Vermont says:

"We think there can be no question that this stipulation does bind the parties to abide the decision of the arbitrator named, as much as that of any other umpire or arbitrator; and in one sense the submission to the determination of the engineer is more obligatory than any ordinary submission, inasmuch as, being upon consideration, it is not revocable, and the obligation upon the defendants to pay does not by the terms of the contract arise until the estimates are made by the engineers. * * * And while it is undeniable that a full and fair decision of the engineer is as binding as any other award of an arbitrator and practically (on account of the vast extent of the work and the vital necessity of the company and the contractors

knowing as they go along how they stand, and closing their accounts from time to time beyond the necessity of revision) more emphatically entitled to exemption from re-examination upon slight or factitious grounds. Still it must be apparent that in the matter of proof the decision of such an arbitrator when brought before a judicial tribunal for revision as they are always liable to be, are exposed to more watchfulness and carelfulness of examination upon those points where from the nature of the case they are exposed to peculiar liability to infirmity. No fair mind competent for such an examination could fail to perceive this. But this surely will not justify any court in setting aside such a determination upon any but the most unanswerable grounds. It must be obvious to all that the parties must have felt the necessity of such an umpirage or they would not have provided for it—and that, having provided for it by the express stipulations of their contract, they must now abide by it and not expect a court of equity to relieve them from the probable consequence of their contract, however disastrous it may possibly have proved, to their reasonable or unreasonable anticipations."

Herrick v. *Belknap's Estate & V. C. Ry. Co.*, 27 Vt., 673.

No where has the doctrine been asserted more vigorously than in this court. Thus in *Railroad Co.* v. *March*, 114 U. S., 549, the following is the head note:

"A contract for the construction of a railroad provided that the company's engineer should in all cases determine questions relating to its execution, including the quantity of the several kinds of work to be done, and the compensation earned by the contractor at the rates specified, and that his estimates should be final and conclusive, and that, 'whenever the contract shall be completely performed on the part of the contractor and the said engineer shall certify the same in writing under his hand together with his estimate aforesaid, the said company shall within thirty days after the receipt of said certificate pay to the said contractor in current notes the sum which according to this contract shall be due.' *Held*, that in the absence of fraud or such gross mistake as would necessarily imply

bad faith or a failure to exercise an honest judgment, the action of the engineer in the premises was conclusive on the parties."

And the court in its opinion says:

"And upon the supposition that the engineer made such a certificate as that provided by the contract, there is no allegation that entitled the plaintiff to go behind it, for, there is no averment that the engineer had been guilty of fraud or had made such gross mistake in his estimates as necessarily implied bad faith, or had failed to exercise an honest judgment in discharging the duty imposed upon him. * * * Several instructions were asked by the defendant embodying the general proposition: that the final estimate of the engineer was to be taken as conclusive, unless it appeared from the evidence that, in respect thereto, he was guilty of fraud or intentional misconduct. These instructions were modified by the court by adding after the words 'fraud or intentional misconduct' the words 'or gross mistake.' This modification was well calculated to mislead the jury for they were not notified that the mistake must have been so gross or of such a nature as necessarily to have implied bad faith upon the part of the engineer. We are to presume from the terms of the contract that both parties considered the possibility of disputes arising between them in reference to the execution of the contract, and it is to be presumed that in their minds was the possibility that the engineer might err in his determination of such matters. Consequently to the end that the interest of neither party should be put in peril by disputes as to any of the matters covered by their agreement or in reference to the quantity of the work to be done under it, or the compensation which the plaintiff might be entitled to demand, it was expressly stipulated that the engineer's determination should be final and conclusive. Neither party reserved the right to revise that determination for mere errors or mistakes on his part. They chose to risk his estimates and to rely upon their right which the law presumes they did not intend to waive, to demand that the engineer should, at all times, and in respect to every matter submitted to his determination, ex-

ercise an honest judgment and commit no such mistakes as under all the circumstances would imply bad faith."

Citing

Kihlberg v. *U. S.*, 97 U. S., 398.
Sweeney v. *U. S.*, 109 U. S., 618.

The Supreme court of Illinois, the state where this controversy arose, holds the same doctrine, in a case which very closely resembles the one at bar, the language of the contract being precisely identical with that now before the court.

"By reverting to the provisions of the contract relating to measurements and estimates it will be recollected that the work was to be executed under the direction and supervision of the chief engineer and his assistants, by whose measurements and calculations of quantities and amounts the several kinds of work performed under the contract should be determined and whose determination should be conclusive upon the parties, and who should have full power to reject or condemn all the work or materials which in his or their opinion did not fully conform to the spirit of the contract. This may seem to be unfair and oppressive towards appellees. It is, nevertheless, their own contract, voluntarily entered into, and they cannot evade or disregard it, unless for fraud, clearly proved. (Citing authorities.) Notwithstanding, therefore, the returns made to the chief engineer by his assistants, if he believe any portion of the work embraced in those returns was not done in conformity with the terms of the contract he was not only empowered but it was his duty to condemn or reject so much of it. He would have been unfaithful to the trust reposed in him had he certified for payment an estimate for work which he knew was not done in conformity with the terms of the contract. It is true his conduct may be impeached, and his estimate set aside for fraud; but fraud cannot, as is assumed in the instructions for appellees, be presumed merely because his estimates for work done pursuant to the terms of the contract are less than the measurement of the quantity

actually done. Even if he, by mistake in judgment, erred in condemning or rejecting work, it would be no ground to impeach his estimate. (Citing *Herrick* v. *Vermont Central R. R. Co.*, 27 Vt., 673.) To prove that the estimate is fraudulent it is not sufficient merely to show that work was rejected or condemned which in the opinion of others should not have been rejected or condemned. This may indeed be proved as a circumstance tending in some degree to establish fraud, but it is not conclusive. The evidence must show that the engineer knowingly and willfully disregarded his duty and rejected or condemned work which he knew, or at least should have known, fully conformed in all respects to the terms of the contract. In determining this question evidence is admissible of the character of work to be done, in the first instance the quantity and character of work actually done, and also of that undone."

Snell v. *Brown*, 71 Ill., 133.

Another case very closely in point is *Navigation Co.* v. *Fenlon*, 4 Watts & S., 205, 210.

"The question then recurs, by whom is the compensation of the plaintiffs to be estimated? and this is the main point in the cause. Plaintiff sets out in his declaration the agreements of the 26th of September, 1840, or what is the same thing, refers to them, and consequently makes them part of his case. After stating the price to be paid the contractors, the manner of paying them, the causes for which the company may declare the contract abandoned, the agreement contains the following clause: 'It is mutually agreed between the parties to these presents that in any dispute which may arise between the contractors and the company the decision of the engineer shall be obligatory and conclusive without further recourse or appeal.' This stipulation, or one like it, forms part of every contract with the agent for the public works of the commonwealth, and it is believed that it has been adopted by every private company in the state and in the neighboring states engaged in similar undertakings. Experience, which is the best test, has shown its beneficial effects and indeed its absolute necessity; for without it it

is next to a certainty the company would be constantly harassed with vexatious and ruinous litigation. In any contract of this kind. To avoid unpleasant and unprofitable controversy, it has been found expedient at least to clothe the engineer with great power in relation to the conduct of the contractors and the manner of performing the work, and in all cases when disputes arise it is usual to constitute him the absolute judge. His decisions, to use the language of the agreement, are 'without appeal' and extend to *any*, and let me add *every* dispute which may arise between the contractor and the company. It must be admitted that the language is sufficiently comprehensive to embrace the present controversy, and if we are not governed by it it is because this case forms an exception to the general rule. Here there is a suspension, or, if you will, a mutual recision of the contract. A dispute has arisen between the company and the contractors, and by whom is that dispute to be settled? The answer is, by the engineer, a judge of the parties' own choosing; for the agreement says, when *any* dispute arises it is to be settled on an estimate made by the engineer and that estimate shall be conclusive and without appeal. * * * The engineer employed by the company is perfectly acquainted with all the details of the work, and certainly more competent to determine any difficulty which may arise than a jury indifferently selected and without the requisite information or power to acquire it. It has been urged that the clause, as to the power of the engineer, is limited to the subsistence of the contract, or when the work is in actual progress; but this view of the case is more plausible than sound. Where the agreement is declared to be abandoned and the contract ended for any of the causes enumerated in the agreement, it will not be pretended the contractor can be permitted to appeal to a court and jury without the previous arbitrament of the engineer, or an offer by one and a refusal by the other to refer the dispute to his decision.

An award given by a referee who is appointed by the parties to set a price on an article, is an arbitration recognized by the Roman law as well as the common law, and can only be set aside by proof of fraud by the arbitrator, or such gross mistake as may be evidence of fraud.

* * * In the opinion of the engineer the compensation allowed was liberal and just, made upon fair and equitable principles; was a compensation for all damages suffered in consequence of the suspension, and for all work performed by the plaintiffs. But whether this be so or not, it is not open to question. He was the umpire between them, and it is not pretended it was made in bad faith, nor is there any evidence of gross mistake."

A very recent case in New York contains an instructive discussion of the main question, and incidentally disposes of the point which perhaps will be made here, that the engineer had no right to avail himself of the labors of others, but was bound to do the entire work himself.

"The parties stood upon an equal footing, their contract was without legal objection, and the arbitration clause is as binding and should be enforced the same as any other provision. In one sense, as was said in a case somewhat analogous, the submission to the determination of the engineer is more obligatory than any ordinary submission to arbitration, inasmuch as, being upon consideration, it is not revocable, and the obligation upon the defendants to pay did not, by the terms of the contract, arise until the estimate was made by the engineer. (Citing) *Herrick* v. *Railroad Co.*, 27 Vt., 673, 679.

A valid award or estimate operates as a final and conclusive judgment, and however disappointing it may be, the parties *must* abide by it. (Citing authorities.)

* * * * *

It is to be observed that the plaintiffs, when they learned that the estimate was about to be signed, made no objection to the action of the chief engineer because he had not personally measured the work, nor did they request him to measure it, or to cause new measurements to be made. They did ask him, however, to take the evidence of their foreman as to the true quantity of work. He replied that he must rely upon the reports of his subordinates as to the quantity, and that he could not take the testimony of the contractors or their employes. Was it the duty of the chief engineer to hear evidence? We have already

held that the nature of his trust was such as to permit him to rely upon the reports of his subordinates in making his estimates. The same reasoning which led us to that conclusion applies with equal force as an answer to this question.

* * * * *

We think that it was the intention of the parties to clothe the chief engineer with the power of summary computation, based upon his experience in building railroads, his general knowledge of this road, the original surveys, measurements, plans, specifications, and such other data as would be presumed to be in his possession, but chiefly upon the reports of the skilled engineers working under him. It thus became his duty to exercise his judgment upon all the facts thus ascertained, and to fairly make the estimate. There was no delegation of authority further than was impliedly authorized by the contract.

(Citing)

Wiberly v. *Matthews*, 91 N. Y, 648;
Billings, Awards, 76, 77.

What was the effect of the estimate made by the chief engineer? The intention of the parties to make it final is evident from the language used in their own agreement, and it is emphasized by the reference to the agreement between the railroad company and the defendants, which contains a provision making the estimate of the same person conclusive upon the parties to that instrument also. The defendants evidently intended that the work which they had agreed to do for the railroad company, and which they sub-let at a profit to the plaintiffs, should be estimated under both contracts by the same person, so that the estimate which was conclusive between the railroad company and themselves should also be conclusive between the plaintiffs and themselves. The plaintiffs, by signing their contract, united with the defendants in the effort to carry this intention into effect.

* * * * *

The chief engineer had the general powers and duties of an arbitrator, except as they were expressly or impliedly restricted or increased by the contract of the parties. We have held that they could not have intended

that which they knew to be impossible; but as they agreed that he should be an umpire to decide all matters arising or growing out of the contract, the same effect should be given to his estimate, when made, as to the decision of an umpire or arbitrator."

Sweet v. *Morrison*, 116 N. Y., 19 (1889).

The trial court in his opinion seems to us to have taken a very incomplete view of the clause in the contract giving the engineers final authority. He says, "The "language of the clause is that the chief engineer shall "decide every question which can or may arise between "the parties relative to the execution of the work, and "his decision shall be final." And the court argues that the question here is not as to the *execution* of the contract but as to the right to *change the payments*, etc. If this sentence selected from the middle of a paragraph were the whole, the court's construction of it might be defended. On the contrary the first and last clauses of the paragraph bear explicitly upon the question of measurements and classification.

"The work shall be executed under the direction and supervision of the chief engineer of said railway company and his assistants, by whose measurements and calculations the quantities and amounts of the several kinds of work performed under this contract shall be determined, and whose determination shall be conclusive upon the parties."

And again,

"Whereas the classification of excavation, provided for in the annexed specifications, is of a character that makes it necessary that special attention should be called to it, it is expressly agreed by the parties to this contract that the determination by the measurements and calculations of the said engineer of the respective quantities of such excavation shall be final and conclusive."

It will not do, therefore, to dodge these provisions by treating them as identical with the other provision contained in the same paragraph, that the engineer shall determine all questions arising upon the *execution* of the contract. His decision, by the paragraph taken as a whole, is made final first, upon questions of measurements; second, upon all questions relating to method of execution which may arise in the progress of the work, and especially on the qnestion of classification.

In these clauses and the others quoted in the statement of facts, there will be noted three important elements. First, the absolute power of the chief engineer and the necessity of his certificate before final payment. Second, the express assertion of his right to avail himself of the services of his assistants in making up his estimates. Third, the recognition by the parties of a difference between the monthly or "running estimates" and the final estimate.

It seems unnecessary to discuss this point further until the position of the other side in respect to it shall be disclosed. We apprehend that they will not seriously dispute the right of the company under ordinary circumstances, to rely on the final estimates of the chief engineer. The court concedes this, in effect, but holds that an estoppel has been created by the monthly estimates of Dresler, so strong as not only to forbid the reduction of the figures below the limits of correction consistent with sound enginering, but to prevent any reduction whatever; the court says "*any* material reduction."

When we come to examine this part of the subject we find ourselves compelled to deal with two very different things; first, the estoppel as laid down in theory in the opinion of the court, and, second, the estoppel as actually applied in the findings and the judgment. It is not too

much to say that the two things cannot be supported by the same reasoning or made to fit into the same view of the law. The theoretical estoppel, set forth in the declaration and in the opinion of the court, is made to rest upon the fact that "the men who actually did the work," (*i. e.*, the sub-contractors under Jones,) were paid on the basis of the erroneous monthly estimates. The rulings of the court on the evidence are in harmony with this theory, and he appears to have gone to the full length of the doctrine that the basis of the claim was money actually paid to sub-contractors, for when the plaintiffs offered evidence to show that some of the sub-contractors to whom payments had been made were and are insolvent and irresponsible, so that it was impossible for Jones to recover from them the amounts overpaid, the court sustained an objection to the evidence on the ground that this was an immaterial question, and that the money having actually passed into the hands of the men who did the work, the estoppel at once arose, without reference to the possibility of getting it back again.

But when we examine the judgment rendered and the basis of it as expressed in the findings of law (printed record, p. 17), we find a very different state of the case. Instead of rendering judgment for the amount which Jones had overpaid "to the men who actually did the work," the judgment includes ten per cent. profit thereon, due to Jones, and another ten per cent. due to Price. Moreover, although basing his opinion on the supposed equities arising by overpayments to the sub-contractors, the court included in the judgment at least two items, amounting to $1,300, which had never been paid to the sub-contractors at all. Further, it is conceded on the whole record, that

with careful and competent engineering, there may be differences of five per cent. either way between monthly and final estimates. This difference was wholly ignored by the trial court, who rendered judgment on the basis of the *absolute correctness of Dresler's seventh monthly estimate*. Why that estimate should have been selected passes our comprehension. It is conceivable that the court might have been justified in finding in accordance with the final estimate, or in accordance with the overpayments to the sub-contractors, or, in an extreme case, upon the basis of the last monthly estimate, viz.: that of December 1st. But why the intermediate monthly estimate of November 1st should be hit upon as defining the rights of the parties, we are unable to understand. Yet so it is.

The truth is that when we try to state the argument of the opinion in terms which admit of accurate apprehension and clean-cut refutation, we find that it eludes our pursuit. It is never definite enough to grasp, and when we think we have it, it alters its form and escapes again. We can only meet this unsubstantial reasoning by showing, if possible, that on *no* theory can the judgment be sustained.

II.

THE RECOVERY, IF ANY, MUST BE SOLELY UPON THE CONTRACT RIGHTS OF PRICE, THE LEGAL PLAINTIFF.

This is expressly conceded by Judge Blodgett in his opinion, and the citation of authority seems superfluous. The statement on the face of the record, that the suit is brought for the use of Jones, does not affect the substantial rights of the parties, but only gives notice that Jones has an interest in the proceeds of the litigation. Even in

cases where a chose in action is *assigned*, the assignee takes no greater rights than his assignor has.

"The assignee can transfer no better right than that of "which he is possessed."

1 Waite, Act. & Def., 364.

"It is the general and well established rule that an as- "signee of a demand or right in action, negotiable instru- "ments only excepted, holds subject to all equities, "burdens and offsets which existed at the time of the as- "signment against the assignor."

Id., 366, and cases cited.

It is unnecessary for the assignee even to allege on the record that the suit is for his use.

Thus in a Pennsylvania case, where the defendant had contracted with the nominal plaintiff to convey certain land, the contract was assigned to Davis, who demanded a deed, but was refused because the original contractee notified defendant not to make it. Davis thereupon brought suit in the name of his assignor to compel the execution of a deed. The court says:

"An assignee need show no right in himself; it is "enough if he show a right in the legal plaintiff, for it is "this right alone that can be enforced."

Hamilton v. *Brown*, 18 Pa. St., 87.

See also

Saltmarsh v. *Bowen*, 22 Ala., 221, 231.
Ferguson v. *Milliken*, 42 Mich., 441.
Sanders v. *Dist. Col.*, 20 Ct. Claims, 337.

In the case at bar there was no assignment of the contract as a whole, so as to vest in Jones the entire right of action which would have belonged to Price. The sub-contract covers only ninety per cent. of the subject-matter

of the original contract, and by no means puts Jones in a direct contractual relation with the railway company. Had there been a complete transfer of relations, the circuitous method of payment through Price would have given place to a system of direct payment to Jones. Every circumstance, of fact as well as of law, shows that Jones was a mere sub-contractor and not an assignee.

It will be observed that this is an action at law upon the written contract. It is neither a proceeding in equity to impeach the engineer's estimates for fraud or mistake, nor an action for deceit or false representations to the injury of the plaintiff, nor an action of *indebitatus assumpsit*, in which the plaintiff can recover only *quantum meruit*.

The plaintiff, Price, must recover on his own rights, *under the contract*, or not at all.

III.

THERE IS NO ESTOPPEL.

A. As between Price and the company there are no circumstances which can work an estoppel.

It is somewhat surprising to learn on examination of the record that the circumstances relied upon as creating the estoppel, are circumstances arising not between the railway company and Price, the contracting parties, and the parties to this suit; but transactions between Jones and his sub-contractors, who are strangers both to the contract and to the suit. It is true that the suit is prosecuted for the use of Jones, but that does not make Jones a party in any such sense as to establish a privity of relation

between him and the railway company. It was not necessary that his name be expressed on the record at all, and the only effect of such expression is to give him the right to control the judgment. It is hard to understand how it can be seriously claimed that the *contract* rights of Price against the Railway Company can be enlarged or affected by transactions between strangers.

But in the absence of some such supposed equities, it must be obvious at a glance that there is no estoppel in favor of Price. If we analyze the situation in this aspect and leave Jones and his sub-contractors wholly out of account, we find two excellent reasons for holding that Price can claim no estoppel.

First, the contract with Price was made with reference to and in express contemplation of the revision and correction of the monthly estimates by the final estimate, and the determination of both quantities and classifications finally and conclusively by the chief engineer. All the reasoning in the cases cited under the first division of our argument sets forth the logic of Price's position and make it clear that he is bound by the contract he has made. We cannot hope to add anything to the force of this argument, which is apparent on mere statement.

Second, Price can claim no estoppel, for the reason that he has made no overpayments to any one. His contract with Jones bound him to pay the latter ninety per cent. of whatever he should receive from the railroad company, reserving, however, ten per cent., as in the case of the contract of the railroad company with Price. Every dollar which has been paid by Price he has received from the railroad company. The record shows that the amount so received is $299,851.90, of which ten per cent., or $29.985, remains in the hands of Price. *This is*

more than the amount of the judgment in this case. Moreover there is still a sum of over $7,500 conceded to be due from the railway company to Price. Where is the estoppel which forbids the railway company in its dealing with Price to insist upon his fulfilling his agreement and settling by the final estimate of the chief engineer for the work actually done, rather than for what he erroneously thought had been done? It may be true that Price in the light of the final estimate finds himself to have paid Jones more than he would have paid if he had known the facts, but it is not true that he has paid more than he is now bound to pay; and disappointed expectations unaccompanied by pecuniary loss furnish no ground for estoppel.

B. The relations between Jones and his sub-contractors cannot enlarge the contract rights of Price against the company.

All that we have said above was sufficiently obvious both to the counsel who drafted the declaration, and to the judge who tried the case. The former alleged as the ground of recovery, not that Price had overpaid Jones, but that Jones had overpaid his sub-contractors, who were insolvent and irresponsible. Judge Blodgett in his opinion concedes that "if the contractors had not acted on these "monthly or running estimates as the work progressed, "and paid *the men who actually did the work* on the basis "furnished by these estimates, the right to correct errors "might have existed." It does not clearly appear why "the men who actually did the work," and have been paid for more than they did, are entitled to keep the money. But the court seems to regard their right as fixed and sacred; for, as we have already said, he held the question of their insolvency to be quite immaterial, and treated

the estoppel as complete from the mere fact of the payment of the money to them.

The objections to this theory, of course, are that, as we have said, it enlarges the contract rights of Price as against the railroad company by transactions between parties to whom the railroad was legally a stranger, and that it deprives the company of the benefit of the protections and safeguards which it took pains to insert in its own contract, and which were repeated in the contract between Price and Jones. The ten per cent. reserve and the provision for the conclusiveness of the estimate of the Chief Engineer and for final payment only upon final estimates, are highly important features of the transaction, and it would surely be a perversion of justice to hold that they are obliterated by the introduction of equities in favor of other parties two or three degrees removed from the transaction.

There is a lack of perspicuity in the reasoning of the court by which he seeks to show the connection between the contract rights of Price and the over payments to the sub-contractors. The paragraph begins by admitting that recovery can only be had upon the rights of Price under the contract, and proceeds as follows:

"The proof shows that the result of these erroneous "estimates as to the quantities and classifications of the "work done on this division 9 was to cause Price, Mc-"Gavock & Co., to pay Jones, Forrest & Bodkin more "on account of each monthly estimate for this division than "they would if the estimates had been correct, and Jones, "Forrest & Bodkin in turn paid more to their sub-contrac-"tors than they would have been entitled to receive if cor-"rect monthly estimates had been made; so that the effect "of this revision of the estimates on division 9 is to make "Price, McGavock & Co., the losers to the extent of the "errors corrected, and Jones, Forrest & Bodkin, being

"also the losers, can properly prosecute this suit in the "name of the principal contractors for their own use."

It is true that Price paid Jones more than if the monthly estimates had been correct. It is perhaps also true that Jones paid the sub-contractors more than if the monthly estimates had been correct. But in what sense is it true that Price is a "loser"? We insist in no sense except to the extent of his disappointed expectations. Financially he is not a loser. He has money enough in his hands to settle all claims of Jones with a considerable balance left in his favor. So Jones (if his rights were entitled to consideration) has money enough to settle the claims of his sub-contractors, *unless he has paid it out without taking the precaution of reserving ten per cent., or otherwise protecting himself against revision of the figures.* In the latter case he alone is to blame. He knew (for it is matter of common knowledge, and is recognized by the language of the contract itself) that the papers he received, headed "monthly estimate," were mere approximations, and in the nature of the case could be nothing more. The evidence shows that the best that can be expected is a correspondence of the final with the monthlies within five per cent. Jones knew that his contract with Price, and Price's contract with the company, provided for a final determination by the chief engineer, and for a reservation of ten per cent. Certainly he cannot blame the company for his own failure to protect himself in like manner against his sub-contractors.

Some light may be thrown on the nature and function of the monthly estimates and the use that has been made of them in this case, by referring to the familiar principle that estoppels must be mutual. If the monthly estimates concluded the company with respect to a reduction of the

amount shown, they must also have concluded the contractor with respect to an increase. Let it be supposed that Dresler's estimates of work done, instead of exceeding the reality, had fallen short of it. We suspect that when this fact was ascertained by the remeasurement and final estimate of the chief engineer, the counsel for Jones would have been found very prompt in bringing his action to recover the difference. It cannot be contended with a straight face that over-payments or under-payments made under a mistake of fact, are past correction. The evidence shows that these contractors did expect a final estimate which would change the figures of the monthlies. They anticipated that there would be an increase, because it was usual for the division engineers in their monthly estimates to err on the safe side and make their figures too low rather than too high. A method shown by experience to be the safest and fairest at command, was provided by the parties for correcting discrepancies in either direction. This is the final estimate of the chief engineer. Upon the plainest principles of law such an estimate supersedes the monthly approximations, and as was said in 27 Vt., *supra*:

"Having provided for it by the express stipulations of the contract, they must now abide by it and not expect a court of equity to relieve them from the probable consequences of their contract, however disastrous it may have possibly proved to *reasonable or unreasonable* anticipations."

The sub-contractor could have recovered the amount of any increase from Jones, and Jones in turn from Price, and Price from the company. Upon the authority of the homely maxim, "it's a poor rule that doesn't work both "ways," (which is a reasonably accurate paraphrase of the legal doctrine of mutual estoppels), the amount which

the final estimate showed had been paid for work which never was performed, could be recovered or recouped by the company from Price, and by Price from Jones, and by Jones from the sub-contractors. There is no trace in the record of any arrangement with the sub-contractors by which they were to receive pay for work that they did not do; and if there had been such an arrangement it would not bind the railway company.

We need not repeat, except by the barest mention, the misapplications of the court's own doctrine of estoppel, which we have pointed out in commenting on other branches of the case. Professing to found his judgment on the over-payments by Jones to his sub-contractors, he holds the railway company liable for amounts never paid to the sub-contractors at all; he denies the right of correcting the estimates even to the extent of the five per cent. margin, which is unavoidable with the most careful engineering; he gives judgment for the full amount shown by Dresler's seventh monthly estimate, and makes the railway company liable to Price *for the use of Jones* for ten per cent. profit belonging to Price and another ten per cent. reserved in the contract for Jones. In theory and in practice, we respectfully submit, the judgment of the court is wholly indefensible.

The fact is that the court, in straining after what seemed to him substantial justice, has been compelled to take great liberties both with the law and the facts. It is unnecessary even to remind this court that on the whole, the ends of substantial justice may be best accomplished by adhering to the rules and principles of law which have been tested and settled by centuries of experiment. Hard cases make bad law. It may further be said with

entire sincerity that there is no such thing as a hard case here, or, at least, that the hardship is by no means all on the side of Jones. If it be true that he has paid more money than he ought to have paid, and that he cannot recover it back (on which latter proposition there is no evidence in the record), it is equally true, on the other hand, that if this judgment stands, the railway compay will have to pay twice for what it gets, or, more accurately, will have to pay for what it gets and for a good deal more that it never got at all. The court seems to regard it as a case for the application of the rule that where one of two innocent parties must suffer, that one who placed it in the power of the wrong doer to commit the injury should bear the burden. Regarded simply in the light of the equities disclosed by the record, we feel justified in saying that the railway company has no monopoly of blame in this matter. If it employed an incompetent division engineer, Jones and his sub-contractors, who were on the ground, must have known at least as much about his incompetency as the railway company, while, on the other hand, Jones cannot be exonerated from the charge of gross carelessness, if he paid out money to insolvent and irresponsible sub-contractors on the faith of measurements which he knew to be mere monthly approximations, and subject to correction by the final estimate of the chief engineer. This is not a case for the application of any emotional reasoning, but if it were, we think there is at least as much to be said in favor of the railway company's position as against it.

We are confident that on examination of the whole record, it will appear that the judgment cannot stand. If reversed, we suppose the case must go back for an-

other trial, in which the judgment will be for the amount shown to be due by the chief engineer's final estimate, unless under the circumstances the court shall feel justified in setting that estimate aside for fraud or gross mistake. In the latter case possibly there may be a recovery upon a *quantum meruit;* but with that, this court at present has no concern.

NORMAN WILLIAMS,
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Attorneys for Plaintiff in Error.

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IN THE

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, A. D. 1890.

No. 1456.

CHICAGO, SANTA FE & CALIFORNIA RAILWAY COMPANY,
Plaintiff in Error,

vs.

JOHN R. PRICE et al., for use etc.,
Defendants in Error.

ARGUMENT FOR PLAINTIFF IN ERROR IN REPLY.

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ARGUMENT FOR PLAINTIFF IN ERROR IN REPLY.

The field of discussion in this case, which is narrowed on one side by the admissions of the brief for defendants in error, has been greatly extended in another direction by the introduction of a new and wholly unexpected claim. In our former brief we took it for granted that if we could establish the right of the railway company to pay only on the certificate of the chief engineer showing the whole amount of work done, then such certificate, if properly made, would be the measure of the rights of the parties; and we addressed ourselves chiefly to answering the argument by which the trial court was led to ignore the question of a final estimate altogether, on the ground

of estoppel. Our opponent now surprises us by contending, in by far the larger part of his brief, that irrespective of any equitable circumstances which might forbid the alteration of the figures shown by the monthly estimates, those estimates are final, binding and conclusive. In other words, the present contention is that the monthly estimate of November 1st is unchangeable, not because circumstances have made it inequitable to allow it to be changed, but because the parties *intended that it should be final.* It is perhaps not strange that this bald proposition should be difficult for counsel to adhere to in its strictness, and so we find him at various points in his argument attempting to help out his view of what the parties intended, by allusions to facts and circumstances which, if pertinent at all, have a bearing only upon the question of estoppel. We shall try to confine our attention, in replying to the first branch of his argument, strictly to the question involved, which is: Did the railway company and Price, McGavock & Co. *intend* that the monthly estimates, provided for in the contract as the basis for current payments, out of which ten per cent. was to be reserved, should absolutely and forever fix the rights of the parties. We feel warranted in saying that there is not a railroad engineer or contractor in America who would not smile at the statement of a proposition so contrary to universal custom and experience. Nevertheless, if such intention is either expressed in the contract, or fairly implied in view of all the circumstances, it must prevail; but it should be clearly shown.

Were the Monthly Estimates intended to be Final?

The argument on the other side is colored throughout by the constant assumption that the railway company claims the right to *revise* and *correct* estimates, which, but for such revision and correction, would be final. This assumption furnishes the only basis for the reiterated demand that the "power to revise the monthly estimates" shall be shown in express terms in the contract. On the contrary, our position is that the monthly estimates were never intended to be anything but what their name implies—"*monthly*" or "*running estimates*"; that nobody, until now, ever suggested or thought of their being "*final estimates*," the two terms being used in the contract and in common speech in direct antithesis; and that a construction which so contradicts all custom and experience will not be adopted unless it clearly appears to be the only one consistent with the contract and the circumstances of the case.

It is not worth while to spend much time over the technical question, which party has the burden of showing that his construction of the contract is correct. But much depends on the point of view, and the position of the other side involves an inverted conception of the whole situation. We hope to make it plain that the parties to this contract drew it with the fundamental assumption that the monthly estimates were what every railroad constructor understands them to be,—approximations, made as a basis for partial payments as the work progresses;—necessary, because the contractors have not the capital to pay the expenses as they proceed; approximate, because accuracy is impossible; provisional, because it would be unfair to

both parties to make them final. Read in the light of this assumption, every item of the contract becomes consistent and intelligible; read in the light of the assumption made by the other side, the whole is reduced to an impracticable tangle of absurdities.

It is interesting to notice that the record contains no trace of the theory that the November estimate (and, by parity of reasoning, all the other monthly estimates) were conclusive settlements between the parties. The declaration is framed on a wholly different conception of the rights of the parties. The opinion of Judge Blodgett discloses no consideration of the question in this aspect, and his findings of law are expressly based upon a different theory, viz.: that of estoppel by overpayments, which is discussed by counsel under the second head of his argument. Judge Blodgett indeed substantially concedes, though he does not find it necessary to decide, that, if the overpayments had not been made "to the men who actu-"ally did the work," the monthly estimates might have been corrected by the final estimate. Of course, the absence of this contention from the pleadings, and the argument and decision below, may not necessarily conclude the parties in respect to it. But the novelty of the argument, to say nothing of the length at which it is set forth, at least suggests suspicion of its sincerity.

There is significance, too, in the absence of any testimony on the part of the plaintiffs that they considered these monthly estimates final or conclusive. Their notions of the legal effect of the contract, of course, would not change the law, but in our search for the *intention* of the parties, we may receive important aid from their actions and statements. It would have been easy for plaintiffs, if the facts warranted it, to testify that they settled

with their sub-contractors on the basis of the monthly estimates, believing them to be conclusive and subject to no change whatever. On the contrary, the plaintiffs testified that in making the payments to sub-contractors, Jones, Forrest & Bodkin "relied upon the *substantial* "*correctness* of said papers, and did not then expect any "final estimate which would reduce the amount shown by "said papers." (Printed record, 38.)

That is to say, they paid on the faith of the monthly estimates, not because they regarded them as legally *conclusive*, but because they thought, as a matter of fact, they were *substantially correct*. It is a fair inference that they did expect a final estimate which would *increase* the amount coming to them, which is inconsistent, as we shall show, with the treatment of the monthly estimates as binding awards.

It is also to be noted that with respect to the intention of the parties the November estimate stands on no different footing from any of the other monthly estimates. There is no distinction in the language of the contract between monthly estimates made at an early stage of the work, and those made after it was, as counsel say, "substantially completed." Indeed, the very witness who reduced the margin of unavoidable error in the monthly estimates as low as five per cent., did so with special reference to a substantially completed state of the work, and a fair inference from his testimony is (printed record, 56) that the margin of error at earlier stages of the work would be larger. The facts found show that a small amount of grading remained to be done when the monthly estimate of November 1st was made up; but nothing is pointed out by counsel to show the intention of the parties that a monthly estimate made when a small amount

of work remained to be done, and accordingly subject to a margin of five per cent. of error, should be any more sacred or conclusive than one made at an earlier time when a larger amount remained to be done, with accordingly a larger possibility of error in the field computations. The estimate of November 1st, so far as the legal conclusiveness of it is concerned, must stand or fall by the same test as the estimate of May 1st.

Let us look the proposition squarely in the face. If the position of counsel means anything it means that in the light of the contract and all the circumstances of the case, every paper sent in by a division engineer on the first of each month, bearing the heading, "monthly estimate," and approved by the chief engineer as a basis for monthly partial payments, was a complete and binding award, fixing once and forever the amount to be paid the contractor for the work of that month. Two or three interesting results follow from this position. In the first place, the monthly estimates precluded any *increase*, as well as any *decrease*, in the amount coming to the contractors. No matter how the urgency of the work, set forth by counsel in his brief, may have pressed upon the contractors and the division engineers; no matter how strongly the situation would have tempted the employes of the railway company to underestimate so as to be on the safe side; no matter how impossible it might be to accurately compute the work done as it went along; still the figures sent in by the division engineers on the first day of each month were thenceforward sacred, and had passed into irrevocable history. If this was the intention of the parties, we must bow before it: we simply note here that the rule must work both ways, and if the court finds it difficult to conceive that the contractors

meant to shut themselves off from the right to claim an increase over the monthly estimates, that fact may be entitled to some weight in determining what was the real intention of both sides.

A second result which follows from holding the monthly estimates conclusive is that the parties must have *intended to settle finally upon an inevitable margin of error amounting at least to five per cent.* The ingenuity and simplicity of counsel are taxed alike to avoid the recognition of this ugly margin, which is conceded to exist. "Substantial "accuracy" is all that their candor allows them to claim as possible for the current monthly estimates. The special finding uses the words "nearly accurate." (Printed Rec., 16.) The evidence is uncontradicted in the record "that the monthly estimates made by engineers in the "field are necessarily mere approximations, and are al- "ways so regarded among engineers and contractors." (Printed Rec., 56.) No objection was made by the plaintiffs to the introduction of this evidence, nor did they attempt in any way to contradict or qualify it, except by drawing out on cross-examination the opinion of one witness, that the corrected estimates ought not to differ more than five per cent. from the monthly approximations furnished *after the substantial completion of the work* by honest and competent engineers in the field. We are not here arguing as to the *extent* of allowable corrections. We are simply pointing out that by uncontradicted evidence all the parties knew the monthly estimates were liable to errors to the extent of five per cent. Before the court can hold the monthly estimates to be conclusive, it must find that the parties intended to settle on the basis of these estimates, known to be probably or at least possibly erroneous.

In considering this question, of the intention to make the monthly estimates final and unalterable, we are by no means limited, as counsel seems to assume, to the special finding of facts made by Judge Blodgett. That finding is equivalent to a special verdict, as has been often decided; *e. g.*, in *Raimond* v. *Terrebonne*, 132 U. S., 192, and the other cases cited in the brief for defendants in error. But a special verdict, to be conclusive, must be found *under correct instructions*; and in like manner a special finding of facts in a case tried without a jury, must be based on a correct theory of the law. The legal conception of the case under which this special finding was made is expressly set forth in the finding itself (Printed record 17), and it distinctly commits the court to the estoppel theory, as does the opinion, which, by the way, is as truly a part of the record as the special finding of facts, and is valuable for the light it throws on this precise question. If this judgment is now to be defended on the ground that the monthly estimates were conclusive irrespective of any estoppel, then it is obvious that the special finding was made under a false theory of the law, which vitiates it just as the verdict of a jury would be vitiated by erroneous instructions.

Much evidence was offered, as is shown by the bill of exceptions, and disregarded by the court because deemed immaterial on his theory of the case.

We do not contend that this court should look beyond the special findings, to see whether the judgment can be upheld *on the ground adopted by the trial court;* but when it is sought to be sustained on a *wholly different ground*, the special findings would be a trap to catch both the court and the suitors, if they were held to be the complete statement of all the facts. The very act of the court in

disregarding the other evidence is error in "the rulings "in the progress of the trial" which may be reviewed here.

In the light of these considerations it is at least negatively shown to be unlikely that the monthly statements were intended to be final.

All the circumstances of the construction, with the facts which are matter of common knowledge as to the haste that attends such enterprises and the impossibility of accurately measuring as the work proceeds, make it in the highest degree improbable that the contractor, any more than the railroad company, intended to cut off the possibility of revising these monthly estimates, which were known to be in their nature mere approximations. The language of the contract, which the court will read as it was written, in the light of common experience and the understanding current among railroad builders, is consistent only with a sharp distinction between the current monthly estimates and the estimate or certificate on which final payment was to be made.

There is, in the first place, the recognition of "run-"ning" and "final" estimates, incidental so far as the present point is concerned, but all the more significant for that very reason. Counsel seems to find pleasure in spinning a web of technical refinement out of the words "above mentioned" in the paragraph, which reads as follows:

"The party of the second part may at any time pay so much of the money due the party of the first part on the running or final estimates above mentioned, etc."

The clause will be construed as other clauses are construed, so as to give every word and phrase a meaning, if possible. Counsel is pleased to argue that the word

"final" in this clause can have no meaning, because there is no such thing as a final estimate "above mentioned." We respectfully insist that if either part of the sentence is to be disregarded it should be the conventional and formal part of the expression "above mentioned" rather than the substantial word "final," which is used in obvious contrast and antithesis to "running."

But it takes no effort of the imagination, nor even a very careful scrutiny, to find the mention of a final certificate, for which counsel searches in vain. In clause 3 it is provided,

"That whenever this contract shall be completely performed on the part of the said party of the first part, *and the engineer has certified the same in writing*, the said party of the second part shall within ten days thereafter pay to said party of the first part any remaining sums due for said work, according to this contract, as follows, to wit: For clearing, per acre, twenty dollars," etc.

"When the engineer has certified the same in writing." What is "the same"? It is argued on the other side that this certificate of the engineer is to cover simply the fact that the work has been completed. But with all deference to the ingenuity of counsel, we feel sure that he will not succeed in imposing upon this court so narrow a view of the purpose of the final certificate. It is true the contract does not require the engineer in express terms to append to the certificate the final estimate of the work done, but how can it be ascertained what sums are due under the contract, unless at the time of certifying the completion of the work the engineer likewise certifies what amount of work has been completed? And if the monthly estimates are necessarily inaccurate, the inaccuracies must natur-

ally be corrected by this final certificate, or go uncorrected.

It is not without significance that the clause provides for the payment upon such certificate, of "any remaining "sums due for said work." If the position of the other side were correct, there could be no sums due except the reserved ten per cent., and it would have been more natural to provide that upon the certificate of completion the railway company should pay "the ten per cent. re- "served under the provisions of this contract." It will not do, of course, to press this sort of construction too far, but we think there is at least as much force in this line of argument as in some of that furnished by the other side.

Entirely in harmony with this construction is the provision for a reservation of ten per cent. of the amount shown to be due by the monthly estimates. It is true that the contract provides for the forfeiture of that ten per cent. as liquidated damages in case of failure or undue delay in the completion of the work. The necessity of such a provision is obvious, since there would be no right to such forfeiture except by express agreement. But this is by no means inconsistent with the idea that the ten per cent. reserve had another object which it would fulfill as a matter of course without any express agreement, viz.: that it should be used as a fund for the adjustment of differences in the accounts disclosed by careful measurements correcting the monthly approximations. It will always be remembered that in this stage of the argument we are not contending about the extent to which the monthly estimates might be corrected. The right to correct to any extent whatever is fatal to the position of the other side under this head.

There is another provision which throws light on this question. Section 5 of the contract (Printed Record, 27) provides for the payment by the company of any damage done by the contractor to adjacent property and for the deduction of the amount so paid, "from the value of "work done under this contract." If the ten per cent. reserve had no other function, as counsel insists, than to serve as a guarantee for the completion of the work; and if, as he distinctly declares, the right to the ten per cent. became absolute and fixed upon the approval of the monthly estimate, so that the right of action could be assigned and the ten per cent. recovered irrespective of the state of the account between the parties, then it is difficult to see how this damage clause could remain effective. For, whatever may be true of the railway company and the contractor, it is clear that the adjacent property-owner would not be limited to the presentation of his claim within the month during which the damage occurred. But on the theory of the other side, if presented after the month there would be no fund applicable to the payment, since ninety per cent. of a fixed and unalterable indebtedness would be paid, and the ten per cent. reserve was subject to no contingency except that of the completion of the work. The truth is that the whole contract becomes an impracticable absurdity the moment it is attempted to treat the monthly estimates as final. The whole scheme is out of joint.

The contract in various ways recognizes the impossibility of accurate measurements as the work progresses. Thus in section 11 of the specifications (printed record, page 24), "measurements will be made by the cubic yard "from true measured prisms indicated by the cross-section "notes or slope stakes of the engineer." Every member of

this learned court is sufficiently familiar with railroad construction to know that as the work progresses no such measurement is possible. In a distance of fifty miles, under rapid construction, there would on any given date be not less than fifty jagged and incomplete ends of embankments, bridge ends and the like, which could by no possibility be measured in accordance with the specifications until the outlines were filled in and the prism made complete.

Again, both in the specifications (section 12, printed record, 24) and in the contract (printed record, 27, 28), it is minutely provided that the work shall be estimated not according to the way it was actually performed, but in such a way as to make the least cost to the company, regardless of the fact that the contractor may have chosen to pursue a different method. This is the clearest possible recognition of the expectation of both parties that the work should be estimated after its completion, and that it should be judged by what an engineer could see of the "true measured prism," irrespective of the particular method pursued by the contractor.

Counsel show some exultation over the fact that the cases we cite do not turn upon the question of a discrepancy between the monthly and final estimate. This is not so strange when it is remembered that we did not cite them for that purpose, but we believe it is true that there is an absence of authority on either side of this precise question.

The only case we have found which expressly discusses the relative effect of monthly and final estimates in case of discrepancy between them is *Crumlish* v. *Wilmington & Western Ry. Co.*, 5 Del. Chancery, 270, in which it is held that the monthly estimates are merely approximate, and not intended to be binding. Unfortu-

nately for the value of this case as an authority here, the decision was based upon an express stipulation in the contract, that the monthly estimates should so be regarded. The two cases in 27 Vermont, cited on the other side, show an equal infirmity in the opposite direction, for the report of the facts discloses no provision, express or implied, for a final estimate, and Judge Redfield held, that the periodical estimates, being the only ones provided for, should be made accurate. Even this was not squarely decided, since the monthly estimates themselves were set aside for fraudulent undervaluation.

The reasons given by Judge Redfield for supposing that the monthly estimates could be made strictly accurate may possibly have been sound in the year 1855, but we think we have shown above, that they are inapplicable in this day and generation, and certainly the contract has expressly forbidden any such assumption, by providing, as we have pointed out, that measurements should be made on a true measured prism, which requires completed work; and that the work should be estimated not as it was actually done, but as, in the interest of economy, it ought to have been done.

As to the alleged Estoppel.

On the question of estoppel, discussed by the other side, in the last few pages of their argument, we have very little to add to our original brief. Nearly every point made seems to have been anticipated and answered as satisfactorily as we knew how to answer it.

There is an apparent misunderstanding of our argument as to the basis on which any recovery in this case must rest. Counsel states our position to be "that there

"can be no estoppel in favor of any one not a nominal "party to the contract," and this man of straw he proceeds to belabor and demolish, very much to his own satisfaction.

We neither deny nor affirm that under some circumstances and in some forms of action, the sub-contractors, Jones, Forrest & Bodkin, might have a right to assert their alleged equities. We are by no means sure that there is any form of action in which this could be done, but our position was and is that in this action at law Jones, Forrest & Bodkin are *neither parties to the contract nor parties to the suit*, and that the rights of these plaintiffs, Price, McGavock & Company, which are the only rights that can here be considered, must be governed by the contract and by the contract alone. *Welsh* v. *Sherer*, 93 Ill., 64, cited by the other side, was a suit in equity. We have said on pages 25 to 27 of our former brief precisely what we mean on this subject, and we respectfully insist that the discussion on the other side (pages 39, 40) is wholly irrelevant as an answer to our argument.

We have also stated our position, which we see no reason to modify, in respect to the supposed right of Jones, Forrest & Bodkin to invoke the doctrine of estoppel as the successors in interest of the original contracting party. This contract was not assigned to Jones. He never became entitled to the entire proceeds of the contract, but only to ninety per cent. thereof. He had, it is true, for some purposes a beneficial interest in the contract, but an interest which neither excluded the rights nor rose superior to the liabilities of Price, the original contractor. In this respect the case at bar differs wholly from the three cases cited in the Pennsylvania reports. It also differs in the fact that those were suits to recover the

amount due on bonds, which are assignable by statute and which, as the court says, are "an article of commerce," (see 16 S. & R. 21) analogous in most particulars to promissory notes.

Our argument that the supposed estoppel could not apply because the payments were made in contemplation of a final estimate, which would change the showing of the monthlies, is met in part by the reiteration of the statement that no such thing was contemplated. This, of course, throws us back upon the question which we have already fully discussed. If the court is convinced that the parties intended a final estimate, then our argument from that fact applies in full force.

The other attempted answer to this branch of the argument is, that even though a final estimate might have been contemplated, still the parties cannot be supposed to have contemplated such changes from the monthlies as would imply incompetency or dishonesty on the part of the division engineer. The amount of change is not shown in the finding of facts, which uses the expression that the final estimate "largely changed" the quantities, classification, etc. But as we have said, the court, conceding in effcet the impossibility of making the monthly estimates accurate, refuses us the right to make any change at all.

Our argument, that Price could not recover on the ground of estoppel, because he had lost nothing, is answered by another of the ingenious refinements of language in which counsel has shown himelf a master. It is argued with an appearance of seriousness, that Judge Blodgett when he used the words: "that if the plaintiffs "are to be paid according to the revision made by Baker "they will be the losers," intended to find, as one of the ultimate facts in the case, that Price, McGavock & Co.

had paid over to Jones, Forrest & Bodkin, and they in turn paid over to the sub-contractors the ten per cent. which was reserved under both contracts. This is a most strained and remote interpretation. Indeed, the whole finding is more properly one of law than of fact, and is obviously intended to set forth the court's view of the legal effect of a settlement on the basis of the final estimate.

We need not look beyond the findings for the correction of this subtle misinterpretation. It is found (Printed Rec., 15) "that from month to month tissue copies of "said certificates were delivered to plaintiff (Price), and "payment made for the amount thereby shown to be coming to them, *less ten per cent. reserved under the con-* "*tract;* * * * that plaintiffs sent their tissue copies "of said certificates to Jones, Forrest & Bodkin, together "with their check for the amount coming due to them "*under the contract.*" The amount coming due to them under the contract was *ninety per cent.* of the totals shown by the running estimates.

Counsel challenges our statement, that ten per cent. on the whole amount would be more than the judgment. Without taking time to justify this statement from the record, we are content to cite as authority the argument for defendants in error (page 6, at bottom), where it is stated that the whole amount involved in the contract was $300,000. Reference is there made to page 54 of the printed record, which, it appears, counsel feels at liberty to cite when it suits his purpose, though he denies us the right to go beyond the special findings for any purpose whatever.

But if the finding, that the plaintiffs "will be the

"losers," could be regarded as a declaration that they had in fact paid over to Jones the reserved ten per cent., still the fact would remain that such payment was a voluntary abandonment of their chosen and sufficient protection, and entitles them to no equitable consideration. The ten per cent. was not payable until the engineer should certify the completion of the work, which was first done in March, 1888. (Finding of facts, Rec., 16.) The same document which alone authorized the payment of the ten per cent. gave notice of a controversy as to the amount due, and no payment thereafter made by Price could have been made in reliance on the monthly estimate so as to entitle him to the benefit of an estoppel.

An elaborate argument, some of which is too refined for us to follow, is built up on the fact that the railway company, for its own convenience, split up the work into four divisions. The drift of this argument seems to be that each of the four divisions must be treated by itself, and that the ten per cent. reserved thereon became due and payable without reference to the state of the account on the other divisions, so that if the overpayments on Division 9 can be deducted, it can only be by way of recoupment, which must be governed by equitable principles.

A sufficient answer to this is that the ten per cent. does not become due at all under the contract until the engineer certifies the completion of the work, *i. e.*, the entire fifty miles covered by the contract. There is no hint in the contract itself, that it is to be severable; and the action of the parties, as shown by the finding of facts, makes it clear that it was not so intended; otherwise, how

shall we account for the two items specially mentioned, which overlap from Division 9 to Division 10? (Printed Record, 16.)

The contract between Price and Jones is exactly the same in this respect as the contract between the railway company and Price, and in neither is there any allusion to the four divisions, or to any divisions.

No cases are cited to show the meaning and limits of the doctrine, which counsel state in the words: "Counter-"claim is never allowed to override equities." The relevancy of this proposition (if it is true at all), is not apparent as applied to a case where a counterclaim between A. and B. is subordinated to equities existing between C. and D. If any portion of the ten per cent. reserve was applicable to the adjustment of accounts between the parties, on the basis of accurate measurements, the whole ten per cent. on the entire fifty miles must have been so applicable, and the equities in respect to one part are no different from the equities in respect to another.

In conclusion, we again call attention to the departures of the court from his own theory of the case, as stated on page 33 of our original argument, viz: professing to found the judgment on overpayments by Jones to his sub-contractors, the court found the railway company liable for amounts never paid to the sub-contractors at all; he denies the right of correcting the estimates even to the extent of the five per cent. margin which is unavoidable with the most careful engineering; he gives judgment for the full amount shown by Dresler's seventh monthly estimate, and makes the railway company liable to Price

for the use of Jones for ten per cent. profit belonging to Price and another ten per cent. reserved in the contract for Jones. We respectfully repeat, that in our opinion the finding and judgment cannot be successfully defended.

NORMAN WILLIAMS,
CHARLES S. HOLT,
Counsel for Plaintiff in Error.

Supreme Court of the United States.

CONSOLIDATED ROLLER MILL COMPANY
vs.
R. R. WALKER.

Whereas by stipulation of counsel, printed upon page 282 of the record, it was agreed that only certain therein-enumerated American patents should be included in the record; and whereas the letters patent #334,460, which issued to Obenchain on January 19th, 1886, recited in said stipulation, is not included in the record as printed, it is therefore hereby stipulated and agreed by counsel that the same may be now printed and attached to the record in the Supreme Court.

ROB'T H. PARKINSON,
Counsel for Defendant.
R. MASON,
Counsel for Complainant.

UNITED STATES PATENT OFFICE.

JOHN T. OBENCHAIN, of Logansport, Indiana.

Roller-Mill.

Specification forming part of Letters Patent No. 334,460, dated January 19, 1886; application filed June 22, 1885; serial No. 169,403. (No model.)

To all whom it may concern:

Be it known that I, John T. Obenchain, of Logansport, Cass county, Indiana, have invented certain new and useful improvements in roller-mills, of which the following is a specification.

This invention has reference to various features of construction of roller-mills, and will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

(Here follow diagrams marked pp. 2, 3, 4, & 5.)

Figure 1 is a side elevation of my improved mill, showing what I will term the "transmitting side" of the mill; Fig. 2, a similar view of what I will term the "driving side" of the mill; Fig. 3, a vertical longitudinal section of the base-shafts B, the roll-pulleys being shown in elevation above; Fig. 4, an enlarged view of the upper right-hand portion of one of the side frames of the mill; Fig. 5, a vertical transverse section of one of the roll-boxes Y; Fig. 6, a vertical section, transverse ——xes of the rolls of the mill, of a portion of the feed hopper, exhibiting the arrangement of the feed-roll, gate, &c., such view being upon a somewhat enlarged scale as compared with the previous figures; Fig. 7, a face view of one of the arms J of the feed-gate, a portion of the attached fender *i* being shown in section; Fig. 8, a side elevation of a feed-gate, *d*, with one of said arms and a portion of the fender attached; Fig. 9, a vertical transverse section of the casing below one of the rolls, showing the arrangement of one of the roll-scrapers; Fig. 10, a side elevation of one of these roll-scrapers, its supporting-bridge being shown in transverse section; Fig. 11, an end view of the inner end of base-shaft P, with its attached coupling-ring, a portion of the latter being shown in section; Fig. 12, a plan of one of the worms *e*, with its rotary cup-bearing; and Fig. 13, a side elevation illustrating the arrangement of cam-lever X and lever *g*.

In this mill, which is a double-roller mill, a pair of side frames support in the same horizontal plane two pairs of rolls, a coupled series of shafts across the base of the mill, and a casing forming the feed-hopper and inclosure for the rolls. At one side of the mill a roll of each pair is provided with a pulley, both these pulleys being engaged by a driving belt from below the floor, the same belt passing downward between these two pulleys and

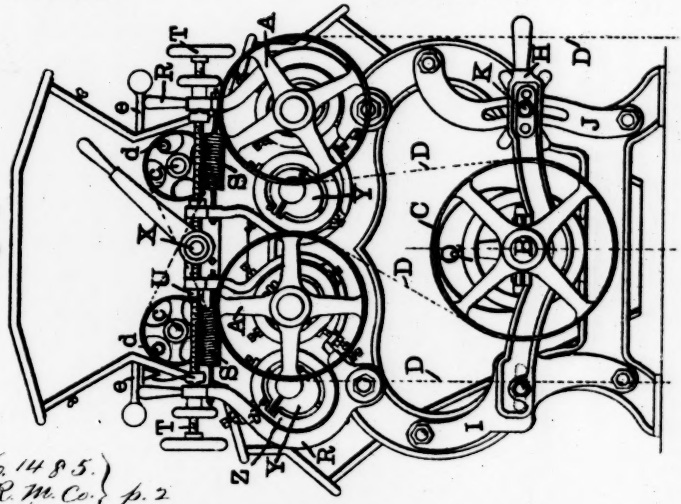
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J. T. OBENCHAIN.

ROLLER MILL.

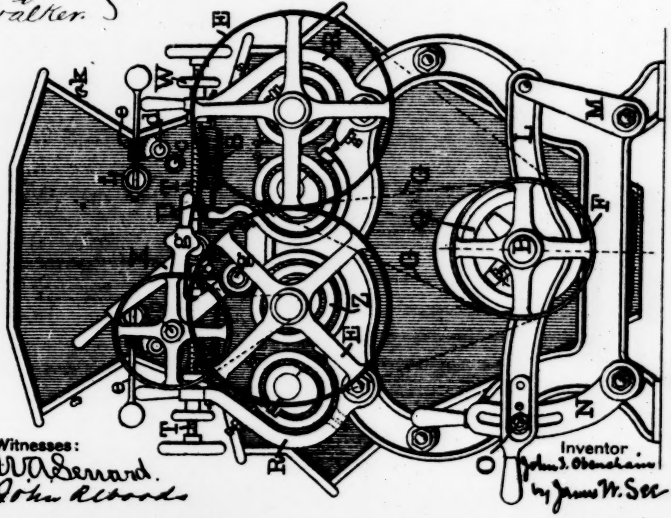
No. 334,460. Patented Jan. 19, 1886.

Fig. 2.



No. 1485.
C. R. M. Co.
Walker.
p. 2

Fig. 1.



Witnesses:
W. A. Serrard.
John Abbards

Inventor
John T. Obenchain
by James W. See
Attorney

No. 1485
C&M. Co
Walker
p. 3.

(No Model.) 4 Sheets—Sheet 2.

J. T. OBENCHAIN.

ROLLER MILL.

No. 334,460. Patented Jan. 19 1886.

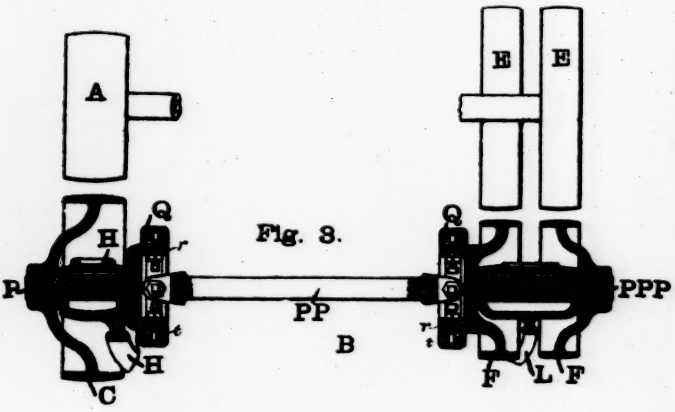


Fig. 3.



Fig. 5.

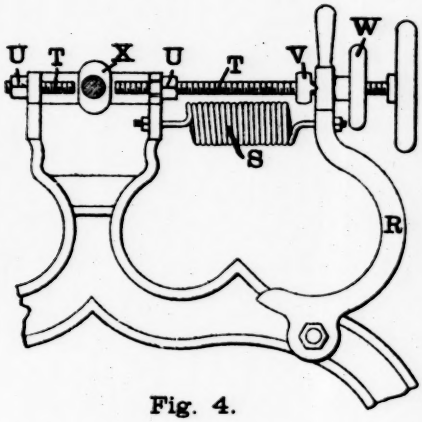


Fig. 4.

Witnesses:
W. D. Seward
John Richards

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Attorney

No. 1485 C. R. M. Co. Walker p. 4

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(No Model.) 4 Sheets—Sheet 3.

J. T. OBENCHAIN.

ROLLER MILL.

No. 334,460. Patented Jan. 19, 1886.

Fig. 6.

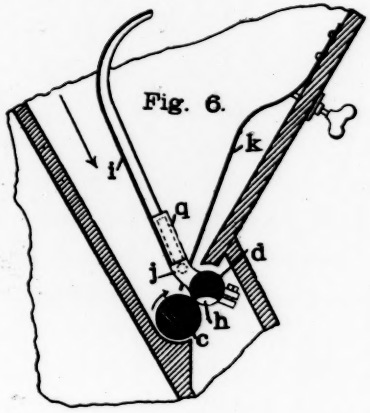




Fig. 7.

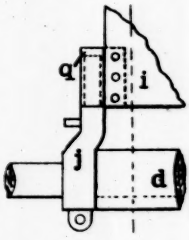


Fig. 8.

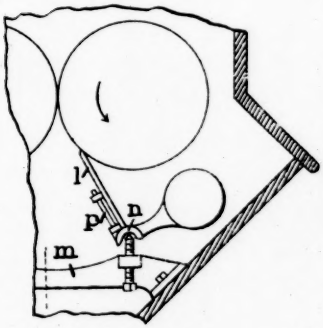


Fig. 9.

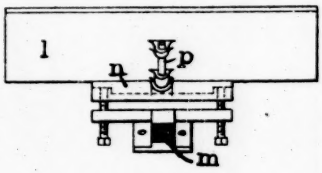


Fig. 10.

Witnesses:
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John T. Obenchain Inventor
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(No Model.) 4 Sheets—Sheet 4.

J. T. OBENCHAIN.

ROLLER MILL.

No. 334,460. Patented Jan. 19, 1886.

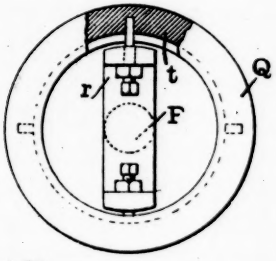


Fig. 11.

No. 1485. C. R. M. Co. Walker. } p. 5.

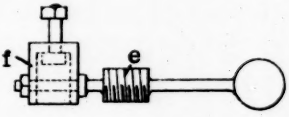


Fig. 12.

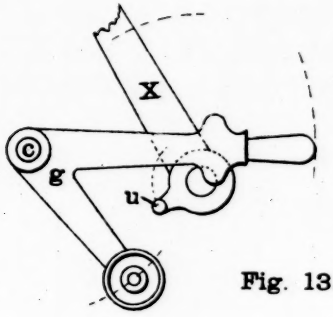


Fig. 13.

Witnesses:
W. A. Seward
T. B. Steen.

John T. Obenchain
by James W. See

Inventor

Attorney

into engagement with a pulley on one of the base-shafts. This is the main driving-belt of the mill, and the side on which it is placed I term the "driving side," and it is illustrated in Fig. 2. At the other side of the mill the other two rolls have pulleys which are driven by two belts from pulleys on one of the base-shafts. This side of the mill I term the "transmitting side," and it is illustrated in Fig. 1. One roll of each pair is supported in a substantially fixed position by the frame, the other rolls being carried in pivoted levers and held to their work by adjustable swings. In the feed-hopper, above each pair of rolls, is arranged a revolving feed-roll operating in conjunction with an adjustable gate. Below each of the mill-rolls, within the casing, is arranged a scraper to keep it clear.

The construction thus mentioned in a general way is well known in the art, and the reader of this specification will be presumed to be fully acquainted with such construction.

My invention relates particularly to the improvements, which will be described in detail, and afterward pointed out in the claims.

I will first refer to improvements in the driving and transmitting mechanism. A represents two pulleys at the driving side of the mill, one on a roll of each pair of rolls; B, the coupled series of shafts at the base of the mill; C, a pulley on the base-shafting at the driving side of the mill; D, the main driving-belt, passing upward from below the floor around the two pulleys A and down around the pulley C; E, two pulleys at the transmitting side of the mill, one on a roll of each pair, the rolls thus provided being the ones not provided with pulleys at their other ends, the pulleys E being offset in order that their peripheries may clear each other; F, two pulleys on the transmitting end of the base-shafting; G, two belts at the transmitting side of the machine, serving to transmit motion from the base-shafting to the pulleys E; H, a lever at the driving side of the mill, pivoted indirectly by one end to the mill-frame, and provided at about its mid-length with a journal-box for one of the base-shafts, this journal box projecting outward into the pulley C, whose arms are boldly dished, so as to make room for the box; I, a bracket rigidly bolted to the mill-frame at the driving side, and provided with a horizontal slot, in which is fulcrumed the pivot of the lever H, which pivot is rigidly fixed in the lever and free to slide in the slot, the bracket serving to carry the pivot-supporting slot well out sidewise from the mill-frame; J, a somewhat similar outreaching bracket secured to the mill-frame at the other end of the lever H, and provided with a segmental slot whose arc is swept from the fulcrum-pivot of the lever which is supported by the bracket I; K, a bolt, which may be provided with a hand-nut, passing through one of the horizontal series of holes in the end of the lever H, and through the segmental slot of the bracket J; L, a lever similar to the lever H, but upon the transmitting side of the mill; M, a vertical arm pivoted to the base of the mill, and furnishing at its upper end the fulcrum-bearing for the lever L; N, a lever similarly pivoted to the base of the mill, and provided with a handle at its upper end, and with a segmental slot whose arc is struck from the fulcrum pivot of the lever L; and O a bolt, which may have a hand-nut, passing

through any one of the horizontal series of holes in the end of the lever L, and through the slot of the lever N. The lever H at the driving side of the mill permits the base-shaft at the driving side of the mill to be raised and lowered and fixed at any desired point, whereby the driving-belt may be put in proper tension. In some cases the driving-belt D cannot be brought upward in true vertical lines, and it may then become desirable to shift the pulley C horizontally, in order that the pulley C may not come in contact with those portions of the belt D which pass angularly through the floor. This is done by putting the bolt K in the proper one of the holes of the lever, thus shifting the lever and its shaft horizontally, the fulcrum-pivot of the lever being at liberty to take its end position in the slot of its supporting-bracket. This side adjustment of the pulley C is a permanent adjustment, and is made once for all when the angle of the driving-belt has been determined. At the transmitting side of the mill the lever L enables me to adjust the pulleys F vertically, so as to properly strain the belts G, the operation for which is the same as that of straining the driving-belt upon the other side of the mill. On the transmitting side, however, there are two belts to strain by one adjustment, and one may require more straining than the other. This requires that the pulleys F shall be capable of a horizontal adjustment, which is liable to be needed at any time. The pivoting of the levers M and N permits a free end movement of the lever L, and when bolt O is loosened the lever L may be simultaneously adjusted vertically and horizontally until both of the belts G are under proper strain, after which the bolt O, being tightened, clamps the lever tightly and makes the entire lever structure rigid. The two handles upon the levers L and N render the double adjustment easy of accomplishment, and enable the results to be measured by that peculiar quality of feeling for which no proper substitute can be found. The lever L, instead of having its fulcrum carried in the pivot-lever M, may obviously have its pivot slide in a horizontal slot, the same as the lever upon the other side of the mill; but the lever M will be found to add much to the freedom and delicacy of the adjustment. The two pulleys F are of the same diameter, are on the same shaft, and revolve together at the same speed. Two separate belts lead from these pulleys to the roll-pulleys E above. A single broad pulley will perform the office of these two pulleys. The object, in the construction illustrated, in having two pulleys is to permit the lever L to be disposed between the planes of the two belts. The double-pulley arrangement is not at all essential. The rim of the inner pulley may, if desired, be extended outward, so that one broad pulley receives both belts, and the lever L may be curved to reach the box within the pulley, precisely as is done in the case of the lever H at the other side of the machine. I particularly call attention to this feature, as I wish it understood distinctly that I consider a single broad pulley adapted to operate the two belts as the mechanical equivalent of the two narrow pulleys referred to. The two pulleys form simply compounded pulleys. It is desirous that the adjustment independently of the two base-shafts shall not throw the base-shaft pulleys so much out of line as to in-

terfere with the proper working of the belts. I provide against any disalignment of the belted work by so arranging the parts that either of the base-shafts may be adjusted without affecting in any degree the other. I articulate the base-shafts together, as seen in Fig. 3, in which P represents the driving one of the base-shafts carried by the box of the lever H, carrying the pulley C, and provided at its inner end with a fork, *r*, forming part of a universal joint; P P, the intermediate one of the base-shafts forked at each end; P P P, the transmitting one of the base-shafts, carried by the box of the lever L, carrying the two pulleys, F, which are internally dished so as to admit the box between them, and provided with a coupling-fork; and Q, universal coupling-rings disposed around the forks at each juncture. The base-shafts P and P P P have each a coupling-fork at their inner ends, and the base-shaft P P has a coupling-fork at each end. In the case of the base-shaft P P P, the coupling-fork, the base-shaft, and a pulley are cast in one piece. There are thus four similar coupling-forks, and these, with the two coupling-rings Q and their set-screws, form two universal couplings. Set-screws pass through the ends of the forks and engage in holes in the inner peripheries of the rings. Each ring has an interior circumferential channel or groove, *t*. Oil placed within the ring is kept in these grooves by centrifugal force, and serves to oil all of the screw-bearings. The coupling thus presents a fairly-smooth exterior and will not throw oil outward. It will be seen that the base-shafts, with their two universal joints, permit of one end shaft being adjusted without disturbing the other end shaft, and without disturbing the alignment of the belts. The lever L passes between the two pulleys F, and the inner one of the two pulleys is cast directly upon the fork of its part of the counter-shaft.

I will now refer to the means for supporting the roll-bearings, referring to Figs. 1, 2, and 4. Two of the rolls—one of each pair—are supported in the frame in a substantially fixed position, as usual, the other rolls being carried in boxes and adjustable levers, it being understood, of course, that the rolls are similarly provided at each side of the mill.

In the drawings, R represents the adjustable roll-bearing levers pivoted at their lower ends to the frame, and provided at their upper ends with handles; S, springs adjustable in tension by means of nuts upon the shanks of the springs serving to close the rolls; T, a screw connected to the upper end of the lever R, and having its inner end supported freely by the mill frame, and provided with a hand-wheel; U, a nut upon the screw T, engaging against the mill-frame, and serving to limit the approach of the roll; V, a nut upon the screw T, provided with a horizontal knife-edge bearing impinging against the inner face of its lever; W, a hand-nut upon the screw T, serving, with the nut V, to clamp the lever R; and X, a cam provided with a hand-lever and pivoted to the mill-frame between the contiguous ends of two screws, T. The tension of the springs S may be adjusted to bring the proper closing force upon the rolls, and this tension may be tested at any time while the mill is work-

ing, or while the adjustment is being made, by pulling backward upon the handles at the top of the levers. The nut U serves as a rigid limiting stop to the approach of the rolls, and it is the duty of the springs to simply maintain the movable roll in proper position, as determined by this stop, with sufficient force to prevent the separation of the rolls while properly at work, and at the same time to allow the rolls to automatically separate in case foreign matters seek to pass between them. Very little force is required to hold the rolls together; but it has been the custom to put the springs of roller-mills under an entirely uncalled-for amount of tension, simply because there was no provisions for measuring the tension of the springs. The result has been that the rolls would not open freely enough to pass foreign hard matter without injury. I have discovered that if the springs of my mill are adjusted into such strain that the rolls cannot be freely opened by a pull upon the handle at the top of the lever R they are under unnecessary strain. I therefore adjust the springs until their strain, measured by the pull upon the handle, is sufficient for proper work, but not unduly excessive. I place the spring S below and entirely independent of the gage-screw T, so as to leave the same unencumbered by the presence of the spring. The nut U constitutes simply an abutting element for limiting the inward movement of the lever R. As the lever R oscillates the screw T is at liberty to partake of a hinge-like motion upon the knife-edge bearing of the nut V, and the nut W serves as a means for taking up all lost motion where the screw engages the lever. If the screw T had no other function than to carry the limiting-stop formed by the nut U, that nut, instead of being adjustable, might be fixed upon the screw, and the adjustment might be effected by moving the nuts V and W upon the screw. The ends of the screw T approach near to the cam X. When this cam is turned, the two screws are thrust apart and the rolls are quickly opened in an obvious manner. The cam acts upon the ends of the screws projecting beyond the nuts U, and the degree of this projection may be altered by adjusting the screw through all of the nuts. It is obvious that each side of the mill is to be provided with a roll-opening lever. Provision is made for permitting the bearing-boxes to align themselves upon their journals in the event of the mill not being squarely erected; for permitting the ends of the rolls to be adjusted vertically and independently, so that the two rolls of a pair may be brought into perfect parallelism, and for enabling the journal-boxes to be kept in a condition of closely fitting upon their bearings. The journal-boxes, instead of being rigidly supported in the frame and levers, are carried adjustably in gimbal-rings supported adjustably in the frame and levers.

In Figs. 1, 2, and 5, Y represents the journal-boxes, which have common self-oiling features, not necessary to describe, which are divided so as to form box and cap; Z, the gimbal-rings in which the boxes are supported upon the points of two oppositely-disposed set-screws, and which are themselves supported upon similar set-screws in the supporting part of the mill-frame and box-carrying levers; *a*, set-screws through ears on the box-caps and impinging against

similar cars on the box-body; *b*, a round-edged rib upon the box-cap engaging in a groove in the box-body. The gimbal arrangement permits the two boxes of a roll to align themselves, and permits the opening motion of one end of the roll independent of the other end. The set-screws of the gimbal itself permit the rolls to be adjusted into parallelism with each other, and the set-screws impinging upon the journal-boxes serve not only as gimbal-pivots, but also as a means for closing the journal-boxes. The set-screws *a* serve to limit the closure of the boxes, so that a neat close fit upon the journal may be preserved without binding the journal, and the rib-and-groove feature at *b* endows one side of the box with a hinge-like action, so that the set-screws *a* are only needed upon one side. It will be seen from inspecting Figs. 1 and 2 that the lower set-screws, which are secured through the gimbal-rings supported in the levers R, appear to be obstructed by the levers. The levers are mortised, so as to permit these screws to have room.

I will now refer to the feeding and feed-regulating mechanism, referring to Figs. 1, 2, 6, 7, and 8. *c* represents the usual feed-rolls placed in the hopper-throat, one above each pair of rolls, and arranged to be driven by belt, as usual; *d*, a feed-gate in the form of a rotary cylindrical bar, with its periphery in or nearly in contact with the periphery of the feed-roll, and serving to normally prevent any outflow of grain, each of the gates being provided at one end exterior to the hopper with a segment of a worm-wheel; *e*, worms engaging these worm-segments and having their shafts extended outward, free from any bearing, and provided with enlarged extremities, forming at once handles and weights; *f*, rotary cups secured to the outer surface of the hopper and forming the bearings of the worm-shafts; *g*, (see Figs. 1 and 13,) a weighted lever pivoted to the journal of one of the feed-rolls exterior to the hopper, and carrying a tightening-pulley engaging the belt by which the feed-rolls are driven; *h*, a longitudinal cylindrical groove in each of the feed-gates, adapted, when the feed-gate is turned to proper position, to leave more or less gateway for the passage of grain between the feed-roll and gate; *i*, a sheet-metal fender secured to the gate and forming an adjustable partition across the feed-hopper parallel with a feed-roll; *j*, arms secured adjustably to the ends of the feed-gates, and each provided with a shank to serve in attaching the fender; *k*, adjustable springs secured to the feed-hopper and serving to press the fenders inward, so as to lessen the width of the compartment of the feed-hopper occupied by the inflowing grain; and *q*, sockets secured at each end of the fenders and engaging the shanks of the arms *j*.

In Fig. 1 it will be seen that one of the feed-rolls is driven by a belt from one of the mill-roll shafts, this belt being kept in working tension by the tightening-pulley on the lever *g*. This lever has a weighted handle, by which it may be lifted and the feed thus stopped by hand, and the hub of the cam-lever X is provided with a projection, *u*, which will lift the lever *g* when the roll-opening cam is operated. This feature is clearly shown in Fig. 13. Thus when the mill-rolls are opened the feed-rolls cease to revolve. The second feed-roll is

driven by means of a belt from feed-roll to feed-roll, as shown in Fig. 2. When the worms *e* engage the worm-segments, as seen in Fig. 1, the worms may be revolved and the feed-gates turned to present at *h* any desired amount of gateway. The worms *e* are held into engagement with their worm-segments by gravity, and they may be turned up permanently out of engagement with the worms, and there retained by friction or by other suitable provision, the pivot-cups *f* forming the swiveling journals for these worms. When the worms are thus disengaged from the gates, the gates will obviously be turned, by the force of the springs *k*, into a position about as shown in Fig. 6, in which the gateway is entirely closed. Grain flowing into the hopper in the usual manner will now impinge against the fenders *i*, and these fenders will thus be opened outward, thus opening the gateway more or less. In this manner the amount of gate-opening is regulated by the rate at which grain is admitted to the hopper of the mill. The effect of the inflowing grain upon the fender is regulated by adjusting the tension of the spring *k* in an obvious manner, and the effect of the movement of the fender upon the rotation of the gate is effected by altering the annular position of the arms *j* upon the gate, so as to alter the relation which the plane of the fender bears to the gate-groove *h*.

The construction of the scraping devices is peculiar, and will now be referred to. Fig. 9 is an interior view of the mill-casing at a point below one of the rolls, showing one of the scrapers; and Fig. 10 is a face view of a scraper. *l* represents the scraper in the form of a blade as long as its roll, and provided at its center of length with drilled lugs; *m*, a bridge-piece across the casing transverse to the rolls and midway of their length, and provided below each roll with outwardly-projecting lugs provided with vertical set-screws; *n*, a gutter-shaped casting whose groove rests upon the set-screws of the bridge-piece, and which is provided with an outwardly-reaching weighted arm; *p*, a pin projecting upward from the weighted gutter-like casting through the lugs upon the face of the scraper. The scraper bears in the usual manner upon the rolls, and the scraper is at liberty to swivel upon the pin *p*, and thus find a fair parallel bearing upon the roll. The scraper structure fulcrums upon the set-screws, and the weight keeps the scraper in proper contact with the roll, while the set-screws permit the structure to be adjusted vertically, so as to alter the angle at which the scraper presents itself to the roll, and they also permit each end of the scraper to be independently adjusted vertically.

I claim as my invention—

1. In a roller-mill, the combination of a supporting-frame, two pairs of rolls supported thereby, a pulley upon the transmitting end of one roll of each pair, a base-shaft below said two pulleys, compounded pulleys F upon said base-shaft, a pulley on the driving end of each of the two other rolls, a horizontal lever disposed below the last-mentioned two pulleys and pivoted at one end to the mill-frame, a base-shaft supported in said lever and coupled to the base-shaft at the transmitting side of the machine, and a pulley upon

the base-shaft at the driving side of the machine, substantially as and for the purpose set forth.

2. In a roller-mill, the combination of a supporting-frame, two pairs of rolls supported thereby, a pulley on the transmitting end of one roll of each pair, a base-shaft disposed below said pulleys, compounded pulleys F upon said base-shaft, a pulley on the driving end of each of the other two rolls, a horizontal lever disposed below said last-mentioned pulleys and pivoted at one end to a fulcrum-slot, and provided at the other end with a tightening-bolt and a series of holes for the bolt, a base-shaft supported by said lever and coupled to the base-shaft at the transmitting side of the machine, and a pulley upon the base-shaft at the driving side of the machine, substantially as and for the purpose set forth.

3. In a roller-mill, the combination of a mill-frame, two pairs of rolls supported thereby, a pulley on the transmitting end of a roll of each pair, a base-shaft below said pulleys, compounded pulleys F on said base-shaft, brackets I and J, secured to the frame, lever H, bolt K, a base-shaft carried by said lever and coupled to the base-shaft at the transmitting side of the mill, and a pulley, C, upon the base-shaft at the driving side of the mill, substantially as and for the purpose set forth.

4. In a roller-mill, the combination of a mill-frame, two pairs of rolls supported thereby, a pulley on the transmitting end of a roll of each pair, a base-shaft below said pulleys, compounded pulleys upon said base-shaft, a pulley on the driving end of each of the other two rolls, slotted brackets I and J, lever H, bolt K, a base-shaft carried by said lever and coupled to the base-shaft at the transmitting side of the mill, and pulley C on the base-shaft at the driving side of the mill, substantially as and for the purpose set forth.

5. In a roller-mill, a supporting-frame, two pairs of rolls, a pulley on the driving end of one roll of each pair, a pulley on the transmitting end of each of the other rolls, a horizontal lever disposed below the last-mentioned pulleys and carrying a journal-box, a base-shaft carried in said journal-box, compounded pulleys F upon said base-shaft, and a base-shaft at the driving side of the mill, provided with a pulley and flexibly coupled to the base-shaft at the transmitting side of the mill, substantially as and for the purpose set forth.

6. In a roller-mill, the combination of a supporting-frame, two pairs of rolls, a pulley on the driving end of a roll of each pair, a pulley on the transmitting end of each of the other rolls, lever L, carrying a journal-box and having a shifting pivot, a base-shaft supported in such journal-box, compounded pulleys F upon said base-shaft, slotted lever N, bolt O, and a base-shaft at the driving side of the mill, provided with a pulley and coupled to the base-shaft at the transmitting side of the mill, substantially as and for the purpose set forth.

7. In a roller-mill, the combination of a mill-frame, two pairs of rolls, a pulley upon the driving end of a roll of each pair, a pulley upon the transmitting end of each of the other rolls, lever L, a base-

shaft supported thereby, compounded pulleys F upon such base-shaft, levers M and N, bolt O, and a base-shaft at the driving side of the mill, provided with a pulley and coupled to the base-shaft at the transmitting side of the mill, substantially as and for the purpose set forth.

8. In a roller-mill, the combination of a mill-frame, two pairs of rolls, a pulley on the driving end of a roll of each pair, a pulley on the transmitting end of each of the other rolls, a horizontal lever provided with a handle and a shifting pivot and disposed below said last-mentioned pulleys, a series of coupled base-shafts, compounded pulleys F, pulley C, slotted lever N, provided with a handle, and a bolt engaging the two levers, substantially as and for the purpose set forth.

9. In a roller-mill, the combination of a mill-frame, two pairs of rolls, a pulley on the driving end of one roll of each pair, a pulley on the transmitting end of each of the other rolls, a series of coupled base-shafts, compounded pulleys F, pulley C, lever L, provided with a handle, lever M, slotted lever N, provided with a handle, and a bolt, O, substantially as and for the purpose set forth.

10. In a roller-mill, the combination of two pairs of rolls, a supporting-frame, two pulleys at the driving side of the mill, one upon a roll of each pair, two pulleys at the transmitting side of the mill, one upon a roll of each pair, two levers, one disposed at each side of the mill below said pulleys, and each carrying a journal-box, two base-shafts, each provided with forks, and one carried in each of said journal-boxes, and an intermediate base-shaft reaching between the before-mentioned base-shafts, substantially as and for the purpose set forth

11. In a roller-mill, the combination, with roll-pulleys, coupled series of base-shafts, base-shaft pulleys, and base-shaft-supporting levers, of coupling-forks at the couplings of the base-shafts, coupling-rings encircling said forks, and set-screws secured in said forks and engaging outwardly into said coupling-rings, substantially as and for the purpose set forth.

12. In a roller-mill, the combination, with rolls, roll-pulleys, coupled series of base-shafts, base-shaft pulleys, and base-shaft-supporting levers, of coupling-forks at the couplings of the base-shafts, set-screws in said forks projecting outwardly, and coupling-rings encircling the forks and provided with interior oil grooves and screw-bearings, substantially as and for the purpose set forth.

13. In a roller-mill, the combination of the rolls and roll-pulleys, coupled base-shafts, compounded pulleys F on the transmitting base-shaft, outwardly-dished pulley C on the driving base-shaft, and lever H, provided with a base-shaft box disposed within said dished pulley, substantially as and for the purpose set forth.

14. In a roller-mill, the combination of rolls and roll-pulleys, base-shafts P and P P P, provided with coupling-forks at their inner ends, base-shaft section P P, provided at each end with integrally-formed coupling-forks, pulley C, and compounded pulleys F, substantially as and for the purpose set forth.

15. In a roller-mill, the combination of rolls and roll-pulleys,

pulley C, base-shafts P and P P, base-shafts P P P, two dished pulleys, F, and lever L, provided with a base-shaft box disposed within said pulleys, substantially as and for the purpose set forth.

16. In a roller-mill, the combination of a mill-frame, a roll supported in the frame, a lever pivoted to the frame at each side of the mill and provided with a roll-bearing, a roll supported in said bearings, adjustable springs to hold the levers in working position, adjustable stops to fix the working position of the levers, and testing-handles upon said levers, substantially as and for the purpose set forth.

17. In a roller-mill, the combination of a mill-frame, a roll supported thereby, levers R, provided with roll-boxes, a roll supported in said boxes, stop-screws T, and springs S, disposed below the stop-screws, substantially as and for the purpose set forth.

18. In a roller-mill, the combination of a frame provided with boxes for a grinding-roll, and having rigid portions projecting above the roll, levers pivoted to such frame and provided with roll-boxes, grinding-rolls supported in said frame, and levers, springs attached to the levers and to said outwardly-projecting frame portions, and screws articulated to the levers and engaging such frame portions, substantially as and for the purpose set forth.

19. In a roller-mill, a mill-frame provided with roll-boxes and having rigid portions projecting above the rolls, levers pivoted to the frame and provided with roll-boxes, rolls supported in the roll-boxes, springs attached to the levers and to said upwardly-projecting frame portions, and stop-screws articulated to the said levers and having their inner ends supported by said upwardly-projecting frame portions, and a nut upon each of said screws abutting against such frame portions, combined substantially as and for the purpose set forth.

20. In a roller-mill, the combination of a mill frame and rolls, levers carrying the movable roll-boxes, springs for holding the levers in working position, cams to serve in opening the rolls, fixed portions of the mill-frame contiguous to the cams, screws reaching from the levers to a position to be engaged by the cams, and nuts upon the screws to serve as adjustable abutments against said fixed portions of the mill-frame, substantially as and for the purpose set forth.

21. In a double roller-mill, the combination, with a mill frame and rolls, of levers R, springs S, screws T, with their ends in contiguity, nuts U abutting upon fixed portions of the mill-frame, and cams X, provided with hand-levers and disposed between the contiguous ends of said screws, substantially as and for the purpose set forth.

22. In a roller-mill, the combination, with a mill frame and rolls, of levers R, springs S, provided with means for the adjustment of their tension, cam-levers X, screws T, projecting through the levers and through fixed portions of the mill-frame, nuts U for adjusting the projection of said screws through said frame portions, nuts V upon one side of said levers, and nuts W upon the other side of said levers, substantially as and for the purpose set forth.

23. In a roller-mill, the combination of a pair of rolls, a feed-roll, weighted lever *g*, pivoted at the feed-roll and carrying a tightening-pulley adapted to engage the feed-belt and be held into action by said weighted lever, roll-opening, cam-lever X, and projection *u* upon the hub of such cam-lever adapted to engage beneath the lever *g* and lift said tightening-pulley out of action, substantially as and for the purpose set forth.

24. In a roller-mill, the combination of a pair of mill-rolls, a feed-roll, *c*, a grooved gate, *d*, provided at one end with a worm segment or wheel, a pivot-bearing, *f*, and a worm, *e*, journaled in such bearing and provided with a weighted handle, substantially as and for the purpose set forth.

25. In a roller-mill, the combination of a pair of mill-rolls, a revolving feed-roll, a grooved gate, *d*, a fender, *i*, secured to the gate, and a spring, *k*, substantially as and for the purpose set forth.

26. In a roller-mill, the combination of a pair of mill-rolls, a revolving feed-roll, a gate, *d*, provided with groove *h*, a fender, *i*, secured to the gate and fitted to be adjusted axially thereon, and spring *k*, substantially as and for the purpose set forth.

27. In a roller-mill, the combination of a pair of mill-rolls, a revolving feed-roll, grooved gate *d*, arms *j*, provided with shanks, fender *i*, and sockets *q*, substantially as and for the purpose set forth.

28. In a roller-mill, the combination of a mill-roll, a central scraper-support disposed below the roll, a pair of vertical set-screws in said support, a gutter-piece, N, provided with a weight and resting upon the points of said screws, and a scraper, *l*, attached to the gutter-piece, substantially as and for the purpose set forth.

29. In a roller-mill, the combination of a mill-roll, a rigid support secured below the roll, a central pin, *p*, horizontally pivoted to said support, and a scraper, *l*, pivoted to said pin, substantially as and for the purpose set forth.

30. In a roller-mill, the combination of a mill-roll, a scraper-support, *m*, provided with vertical set-screws, a weighted gutter-piece, *n*, resting upon the set-screws and provided with a pin, *p*, and a scraper, *l*, pivoted to said pin, substantially as and for the purpose set forth.

JOHN T. OBENCHAIN.

Witnesses:
JOSEPH HALLANAN.
R. J. FORGY.

[Endorsed:] Supreme Court U. S. 1890, October term. No. 1485. The Consolidated Roller Mill Co., app't, *vs.* R. R. Walker. Stipulation and addition to record. Filed Dec. 20, 1890.

No. 11,105 Consolidated Roller Mill Co. } p. 3
Walker.

2 Sheets—Sheet 2.

W. D. GRAY.

Rolls for Reducing Grain, Middlings, &c.

No. 228,525. Patented June 8, 1880.

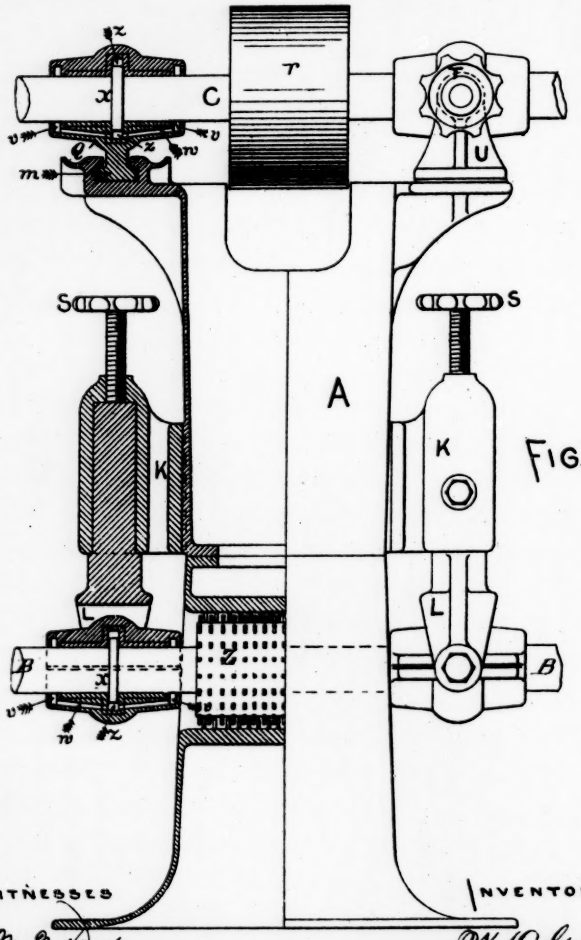


FIG. 3.

Complainant's Exhibit-

Gray Patent No. 228,525.-Exhibit A. to Bill-

Filed June 8, 1887

N. D. Earnest
Clerk

No. 14,955. Consolidated Roller Mill Co. v. Walker. } p. 2

2 Sheets—Sheet 1.

W. D. GRAY.

Rolls for Reducing Grain, Middlings, &c.

No. 228,525. Patented June 8, 1880.

Fig. 1.

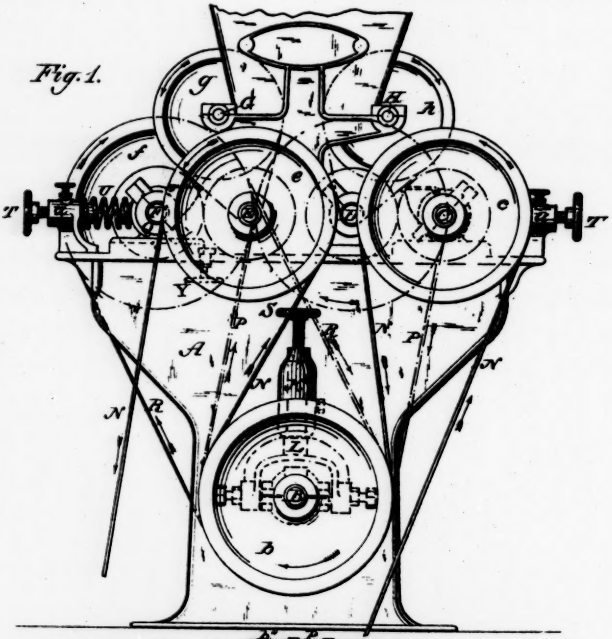
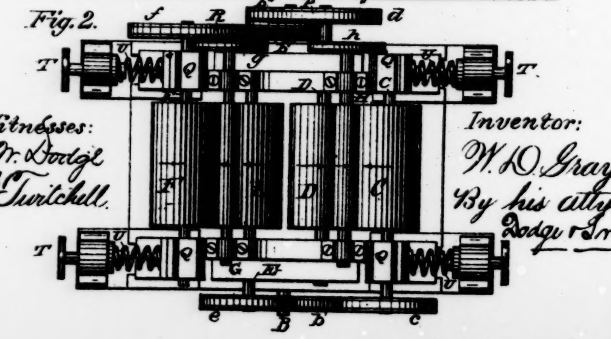


Fig. 2.



Witnesses:
W. W. Dodge
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Inventor:
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By his attys.
Dodge & Dodge

SUPREME COURT OF THE UNITED STATES.

1 CONSOLIDATED ROLLER MILL CO., Appellant,
vs.
R. R. WALKER. } No. 1485.

It is stipulated by counsel that United States letters patent to William D. Gray, No. 228,525, dated June 8th, 1880, *was* put in evidence during the examination of Jesse M. Smith, a witness on the part of complainant, as appears on page 18 of the record, and that as the same appears to have been omitted from the record, of which it should constitute a part, a printed Patent Office copy of the specification and drawings may be made part of the record (according to the stipulation printed on the same page), and that the same may be printed and attached to the record as though it had been included therein.

R. MASON,
Of Counsel for App't.
ROB'T H. PARKINSON,
Of Counsel for Appellee.

4 UNITED STATES PATENT OFFICE.

WILLIAM D. GRAY, of Milwaukee, Wisconsin.

Rolls for Reducing Grain, Middlings, &c.

Specification forming part of Letters Patent No. 228,525, dated June 8, 1880; application filed May 2, 1879.

To all whom it may concern:

Be it known that I, William D. Gray, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain improvements in grinding-mills, of which the following is a specification.

My invention relates to that class of mills in which horizontal grinding-rolls arranged in pairs are employed; and the invention consists in the improved arrangement of belts and pulleys for communicating motion to the rolls, and in other minor details hereinafter described in detail.

(Here follow diagrams marked pp. 2 & 3.)

In the accompanying drawings, Figure 1 represents a side elevation of the same; Fig. 2, a top-plan view of the rolls and their operating-belts; and Fig. 3, an end elevation of the same, partly in section.

It has been found by experience that when the rolls are driven by gearing a great deal of noise and a jarring of the parts of the appa-

ratus and trembling of the mill-floor result, and this jarring and trembling in turn cause an unevenness of operation or grinding and a rapid and uneven wear of the rolls. To obviate these difficulties and produce an even, steady motion I discard the gearing hitherto employed, and substitute therefor a system of belting arranged in a peculiar manner, to give the proper direction and speed to the rolls.

In the drawings, A represents the frame or body of the machine, in the upper part of which are mounted, in pairs, a series of grinding or crushing rolls, C D E F. Above the grinding rolls is arranged a hopper provided with feeding rolls G H, arranged to deliver the grain to each pair of rolls.

B represents a counter-shaft, which is represented in the drawings as extending transversely through the base of the frame or body A, parallel with the grinding-rolls, but which may, if desired, be located entirely without its machine.

As represented in Figs. 1 and 2, the grinding-rolls are furnished alternately at opposite ends each with a belt-wheel or pulley, while the counter-shaft B is furnished at one end with one wheel or pulley and at its opposite end with two.

N represents the main driving-belt, which passes to and around the pulley *c* of the roll C, thence downward and around pulley *b* of the counter-shaft B, thence upward and around pulley *e* of the roll E, and back to the source of power, imparting to the rolls C and E a motion in one direction, and to the counter-shaft a motion in the reverse direction. From the pulleys *b' b''* on the rear end of the counter-shaft B, belts P and R pass upward and around pulleys *d* and *f* of the rolls D F, as shown in Fig. 2, imparting to said rolls a motion the reverse of that of the rolls C E. In this way the two rolls of each set are caused to revolve toward each other while being all driven from a common source primarily.

The use of belting obviates all the noise incident to gearing and produces a much more even and steady motion, each roller being driven from the counter-shaft, instead of one from another, as heretofore.

Another advantage incident to the arrangement of belting above described is, that by simply removing the pulley of any shaft and replacing it with another of proper size, any desired difference in the speed of the rolls may be obtained, whereas in the case of gearing this cannot be accomplished except through the use of a very complicated arrangement of intermediate wheels.

In order to adapt the counter-shaft B to perform the double purpose of reversing the motion of certain of the rolls and of acting as a belt-tightener, it is mounted, at opposite sides of the frame or body A, in boxes swiveled or hung in yokes L, sliding vertically in guides or boxes K, and adjusted up and down therein by screw rods or stems S, the swivel-boxes permitting a slightly greater movement of the shaft B at one end than at the other without interfering with its free rotation, and thereby permitting the tightening of the belt or belts at one side of the machine without disturbing those at the other.

In order to adjust and maintain the rolls C D and E F in proper

relation to each other, the two outer rolls, C and F, are carried in sliding boxes, which are formed each with a T rib or standard, *m*, moving in a groove or way of corresponding shape, the rolls being held up to their operative position by springs U, which, in turn, are regulated in pressure by screws T.

Clamping-screws may be arranged to secure the sliding boxes Q in any desired position.

By the above arrangement of the sliding boxes they are prevented from being advanced or retracted unequally, and thereby giving the rolls a "winding" position.

It is desirable that when the rolls are not employed in grinding they should be held apart, as otherwise they would be liable to injury by direct contact, and also subjected to unnecessary wear. To accomplish their ready separation I place just in front of each sliding box Q a rotating cam or eccentric, Y, which when turned in one direction permits the box to be advanced, but when given a partial revolution about its axis forces and holds back the same.

The meal, after being crushed by the rollers, sometimes packs or cakes together; and for the purpose of regranulating the same it is passed through a disintegrator.

The disintegrator-cylinder may be mounted on and driven by the counter-shaft B, as shown in Fig. 3, in which case the usual surrounding shell or casing (shown in the drawings) will need to be adjustable vertically.

The peculiar manner of or means for adjusting the shell forms no part of the present invention, and need not, therefore, be described in detail herein. Many arrangements—such as the use of bolts and slots, or adjusting-screws, for example—will suggest themselves to the skilled mechanic.

Machines of this class are found to be impaired in their operation through the heating of the roller-journals. To overcome this defect I form on the shafts of the rollers, and also on the counter-shaft, near each end, a collar, *x*, which serves both to prevent end play of the shaft and to carry upward continually a supply of oil from the chamber or supply *z* to the upper side of the shaft and box, whence it spreads out over the entire surface of the bearing and journal.

The boxes are each formed with an annular oil-chamber, *v*, at each end, communicating by inclined passages *w* with the supply chamber or sink *z*. In this way a perfect lubrication of the bearings is constantly maintained and heating is obviated.

The feed-rolls G H are furnished at their ends with pulleys *g h*, which are driven by belts from the grinding-rolls D E, which, being stationary, cannot interfere with the tension of the belts, as would the adjustable rolls C F.

I am aware that various devices have hitherto been employed to regulate the distance between the rolls, in order to govern the fineness of the material delivered from them, and I am also aware that shafts have been made movable in such manner as to tighten belts passing over pulleys on other shafts, and I lay no claim thereto; but I believe myself the first to construct and organize a grinding-mill in the peculiar manner herein shown and described, whereby

the single belt is caused to operate the various parts in the required directions and the disintegrating-cylinder caused to keep the belt tight.

Having thus described my invention, what I claim is—

1. In a roller grinding-mill, the combination of the counter-shaft provided with pulleys at both ends and having said ends mounted in vertically and independently adjustable bearings, the rolls C E, having pulleys connected by belts with one end of the counter-shaft, and the rolls D F, independently connected by belts with the other end of the counter-shaft, as shown.

2. In a roller grinding-mill, a disintegrating-cylinder connected at its two ends by belts with the rolls, in combination with independently and vertically adjustable supports connected by transverse pivots with the boxes sustaining the ends of the cylinder, in the manner described and shown.

3. In a roller-mill, the combination of the frame, the cylinder, the pivoted bearings K, the forked arms L, having the bearings therein, and the screw S, as shown.

WILLIAM DICKENSON GRAY.

Witnesses:
G. E. PALMER.
L. R. HURD.

Corrections in letters patent No. 228,525.

6 In compliance with the request of the patentee, letters patent No. 228,525, granted June 8, 1880, to William D. Gray, of Milwaukee, Wis., for an improvement in "rolls for reducing grain, middlings, &c.," are hereby limited so as to expire with English patent dated February 12, 1879, and numbered 551.

It is hereby certified that the proper entries and corrections have been made in the files and records of the Patent Office. This amendment is made that the United States patent may conform to the provisions of section 4887 of the Revised Statutes.

Signed, countersigned, and sealed this 7th day of August, A. D. 1883.

[SEAL.] M. L. JOSLYN,
Acting Secretary of the Interior.

Countersigned:
E. M. MARBLE,
Commissioner of Patents.

7 [Endorsed:] Supreme Court U. S. 1890, October term. No. 1485. The Consolidated Roller Mill Co., app't, *v.* R. R. Walker. Stipulation and addition to record. Filed Nov. 26, 1890.